



United States Department of the Interior

NATIONAL PARK SERVICE
Rocky Mountain National Park
Estes Park, Colorado 80517

IN REPLY REFER TO:

L76

August 22, 2002

Dear Reader:

Enclosed for your review and comment is an Environmental Assessment (EA) for the Hidden Valley Improvement Project in Rocky Mountain National Park. The Park is considering development of a suite of visitor services and facilities on the site of the old Hidden Valley Ski Area base facilities. One development alternative and the No Action Alternative were identified for detailed analysis. Alternatives evaluated in this EA include:

Alternative 1 – No Action

Under the No Action Alternative, no management actions beyond the previously approved restoration projects at Hidden Valley would be initiated. No formal access (trails, parking facility, signs) and no visitor facilities would be provided.

Alternative 2 – Develop Visitor Services and Recreational Facilities at Hidden Valley

Under this alternative the following facilities would be developed:

- A 2,571 square foot building with bathrooms, a multi-purpose room, an office/search and rescue (SAR) cache, and a breezeway with interpretive panels;
- A parking lot with 122 regular parking spaces and 5 bus/RV spaces; and
- A 3,200 foot long trail system (400 feet paved and fully accessible) with 20 associated picnic sites (one site is a shelter with four tables).

All improvements would be located in areas previously disturbed by the Hidden Valley Ski Area. A variety of recreational opportunities would be available to park visitors in all seasons under this alternative. This alternative would also provide protection for ongoing restoration projects through directed appropriate use of trails, picnic sites, restroom facilities, and education/interpretation of park resources.

The total estimated construction cost for this alternative is approximately \$1.6 million.

Public Comments:

We welcome your comments on this Environmental Assessment. If we receive important new information, or if significant new issues are raised during the public comment period, we will revise the Environmental Assessment. **Your comments must be received in writing by close of business on September 27, 2002.** You can submit your comments to us in several ways:

- **By mail:** Superintendent, Rocky Mountain National Park, Estes Park, Colorado 80517
- **By fax:** (970) 586-1397
- **By e-mail:** romo_superintendent@nps.gov

- **By Express Delivery:** Superintendent, Rocky Mountain National Park, 1000 U.S. Highway 36, Estes Park, Colorado 80517
- **Hand deliver:** Rocky Mountain National Park Headquarters, 1000 Highway 36, Estes Park, Colorado or to the Kawuneeche Visitor Center, Rocky Mountain National Park, 16018 U.S. Highway 34, Grand Lake, Colorado 80447

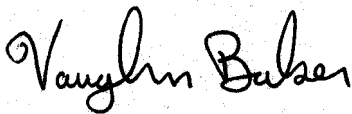
You must include your name and mailing address with any comments you provide. Our practice is to make comments, including names and addresses of respondents, available for public review during regular business hours. Also, we may be required to release your name and/or address if we receive a request for information that is covered by the Freedom of Information Act (5 U.S.C. 552, as amended). Individual respondents may request that we withhold their address from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Additional copies of the EA are available upon request. The EA is also available on the Internet at the following address:

<http://www.nps.gov/romo/>

Click on "Facts/Docs" on the right side of the page. The web site has a link to the Hidden Valley Improvement Project.

Sincerely,

A handwritten signature in black ink that reads "Vaughn Baker". The signature is written in a cursive, flowing style.

Vaughn L. Baker
Superintendent

enclosure

**ENVIRONMENTAL ASSESSMENT
OF THE
HIDDEN VALLEY IMPROVEMENT PROJECT,
ROCKY MOUNTAIN NATIONAL PARK**



U.S. Department of the Interior
National Park Service
Rocky Mountain National Park
Colorado

August 2002

**Environmental Assessment
of the
Hidden Valley Improvement Project,
Rocky Mountain National Park**

**U.S. Department of Interior
National Park Service**

August 20, 2002

Abstract: Rocky Mountain National Park is considering development of services and facilities to accommodate visitors using the popular Hidden Valley area of the park. Services and facilities are needed to provide a quality recreational experience to park visitors at Hidden Valley and to enhance visitor safety. Development of services and facilities will allow park visitors to recreate in the Hidden Valley area without causing significant damage to park resources.

To fully consider the options for this project, one No Action Alternative, and one alternative for construction of facilities will be evaluated. Alternative 1 is the No Action Alternative; under this alternative, no work beyond the approved Hidden Valley Area Restoration Project (approved in 1999) and the Rehabilitation of the Hidden Valley Area project (approved in 2000) would be initiated. Alternative 2, the Preferred Alternative, is the construction of facilities, including a restroom building, an interpretive trail, picnic sites, and a parking area.

The consequences of these actions on natural and cultural resources as well as visitor experiences, and the local and regional economy are discussed in this environmental assessment.

Public Comments: We welcome your comments on this Environmental Assessment. If we receive important new information, or if significant new issues are raised during the public comment period, we will revise the Environmental Assessment. **Your comments must be received in writing by close of business on September 27, 2002.** You can submit your comments to us in several ways:

- **By mail:** Superintendent, Rocky Mountain National Park, Estes Park, Colorado 80517
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available for public review during regular business hours. Also, we may be required to release your name and/or address if we receive a request for information that is covered by the Freedom of Information Act (5 U.S.C. 552, as amended). Individual respondents may request that we withhold their address from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Environmental Assessment of the Hidden Valley Improvement Project, Rocky Mountain National Park

Summary

The National Park Service (NPS) is considering construction of a suite of visitor services and facilities on the site of the old Hidden Valley Ski Area base facilities. Proposed construction includes a 2,571 square foot building with bathrooms, a multi-purpose room, an office/search and rescue (SAR) cache, and a breezeway with interpretive panels; a parking lot with 122 regular parking spaces and 5 bus/RV spaces; and a 3,200 foot long trail system (400 feet paved and fully accessible) with 20 associated picnic sites (one site is a shelter with four tables). All improvements would be located in areas previously disturbed by the Hidden Valley Ski Area.

The objectives of the proposed project are to:

- provide visitors with an all-season recreational opportunity
- make this recreation facility compatible with restoration work accomplished and being conducted under projects 99-02 (Hidden Valley Restoration) and 00-07 (Rehab Hidden Valley Area Building #382)

One development alternative and the No Action Alternative were identified for detailed analysis. Alternatives evaluated in this Environmental Assessment (EA) include:

Alternative 1 – No Action

Under the No Action Alternative, no management actions beyond the previously approved restoration projects at Hidden Valley (99-02 and 00-07) would be initiated. No formal access (trails, parking facility, signs) and no visitor facilities would be provided to visitors at Hidden Valley.

Alternative 2 – Develop Visitor Services and Recreational Facilities at Hidden Valley

Under the development alternative, the above mentioned facilities would be constructed. A variety of recreational opportunities would be available to park visitors in all seasons under this alternative. This alternative would also provide protection for on-going restoration projects through directed appropriate use of trails, picnic sites, restroom facilities, and education/interpretation of park resources.

The total estimated construction cost for this alternative is approximately \$1.6 million.

Preferred Alternative

This EA addresses all of the issues and concerns that have been identified for each of the alternatives. The potential effect of each alternative on natural and socioeconomic resources was evaluated. The preferred alternative is Alternative 2. Alternative 2 meets the purpose and need stated in the EA, and also complies with a range of policies and management goals. Alternative 1 does not meet the purpose and need, and does not meet Rocky Mountain National Park or National Park Service intent to provide recreational opportunities for visitors. The preferred alternative would provide park visitors with recreational opportunities while also providing for protection of the restored natural environment through directed appropriate use and education/interpretation of park resources.

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ENVIRONMENTAL ASSESSMENT OF THE HIDDEN VALLEY IMPROVEMENT PROJECT, ROCKY MOUNTAIN NATIONAL PARK

Chapter 1 Purpose of and Need for Action

The National Park Service (NPS) is considering development of services and facilities to accommodate visitors using Hidden Valley for all-season recreation in Rocky Mountain National Park (RMNP).

Purpose of the Proposed Project

The purpose of the proposed project is to provide visitors with an all-season recreational opportunity that is compatible with the restoration work accomplished and being conducted under park projects 99-02 (Hidden Valley Area Restoration) and 00-07 (Rehabilitation of the Hidden Valley Area) at the old Hidden Valley Ski Area.

The goals of the proposed project are to:

Provide for Visitor Safety and Enjoyment

- provide increased safety for snow play, through construction of earth berms in the snow play area
- provide all-season recreational opportunities for visitors to Rocky Mountain National Park
- provide all-season restroom facilities

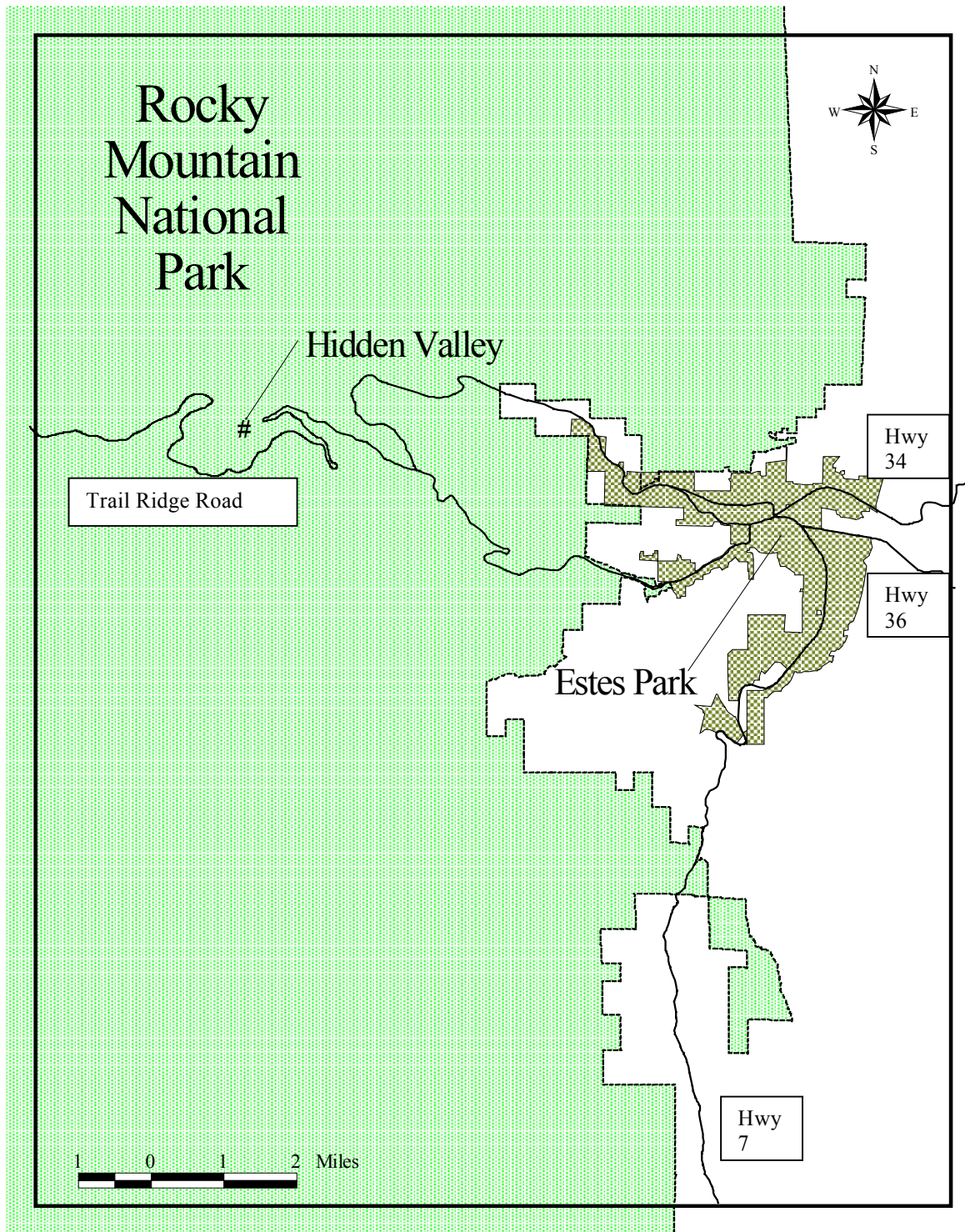
Protect Park Natural Resources

- minimize impacts to wetlands, vegetation, and slopes rehabilitated during the Hidden Valley Restoration and the Rehabilitation of Hidden Valley Area Projects (99-02 and 00-07) through directed and appropriate use
- provide interpretation/education about the Hidden Valley Restoration Project (project 99-02), the Rehabilitation of the Hidden Valley Area (project 00-07), and other park resources

Need for the Proposed Project

Hidden Valley is located approximately six miles west/northwest of the Beaver Meadows Entrance Station (Figure 1), off of Trail Ridge Road. The snow play area at Hidden Valley has been a popular winter recreation destination in RMNP since the Hidden

Figure 1: Hidden Valley in Rocky Mountain National Park



Valley Ski Area closed in 1992. Prior to the winter of 1999/2000, visitors could use bathroom facilities in the old ski area administrative building, and the park used parts of the building for office space and interpretive programs. The restroom and limited administrative facilities continue to be used. The adjacent ski lodge building was removed in the fall of 2001 under project number 00-07. The remaining administrative building will be used for restrooms and NPS administrative staging through the winter 2002-2003 season; this building will be removed in the spring of 2003 as part of the Rehabilitation of the Hidden Valley Area project (00-07).

Hidden Valley is one of two designated snow play areas in Rocky Mountain National Park, and provides access for backcountry skiing, snow shoeing, and snow boarding. Restrooms, parking, and a volunteer-staffed information kiosk are available at the Bear Lake snow play area. Restrooms, parking, and volunteer staff will also be available at Hidden Valley through the spring of 2003, when the building with the restrooms and staging area will be demolished. These buildings are being removed because of their dilapidated condition (project 00-07). The buildings also fail to meet safety codes and accessibility standards, and the architecture is inconsistent with park architectural themes. Due to historically heavy visitor use of this area, the park recognizes a need to provide basic visitor services.

The impending loss of visitor services combined with the ongoing restoration efforts presents the park with an opportunity to meet visitor needs at this site for all-season recreation, while providing resource protection through education and appropriate visitor use.

This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and regulations of the Council on Environmental Quality (40 CFR 1508.9).

Project Background and Scope

The Hidden Valley area has received extensive historic era and modern use. Early use focused on logging, while use since the 1930s has focused on recreation – primarily in the form of skiing and other winter activities.

The Hidden Valley area was subjected to a forest fire in 1900 that was accidentally ignited at the site of a logging operation; subsequent logging of the burned trees also occurred. Much of the timber logged after the fire was used as rough-cut lumber during the construction of the Stanley Hotel in Estes Park, which was under construction between 1907 and 1909 (Pedersen 1993:203).

From 1929 through 1931, the Hidden Valley area was used as a construction camp and base of operations for W. A. Colt, the contractor building the eastern portion of Trail Ridge Road (Buchholtz 1983:174-175). This camp housed up to 185 workers at a time, and was used for staging construction equipment used to build Trail Ridge Road (Mehls 1992:3).

In 1931, Hidden Valley was officially “noticed” as a ski use area in Rocky Mountain National Park (Mehls 1992:4). Trail Ridge Road opened to the public in the summer of 1932; by 1936, the eastern end of the road was kept open all winter for skiers use of upper and lower Hidden Valley. From 1936 to 1941, skiing at Hidden Valley consisted of driving up on Trail Ridge Road, and skiing down into Hidden Valley. Three ski runs were known to exist by the 1938-39 winter season; the Upper and Lower Pine, Juniper, and Suicide/FIS ski trails have all been determined eligible for inclusion to the National Register of Historic Places (Colorado SHPO 1992). The park also improved a beaver pond to use as an ice skating rink in 1936 (Mehls 1992:5).

In 1941, the first ski lift, a rope tow, was installed at Hidden Valley (Mehls 1992:8). Hidden Valley Ski Area operated as a concession beginning in 1949; the base lodge was built in 1955, and expanded in the 1960s. At this time, a 500 car parking lot was in place in association with the lodge. Prior to construction of the lodge, temporary structures (warming huts, first aid stations) were moved to Hidden Valley each fall from park campgrounds. These structures were moved back to the campgrounds by June 1 each spring (Mehls 1992:16).

During development of the ski area, about $\frac{3}{4}$ of a mile of Hidden Valley Creek was altered. Most of the $\frac{3}{4}$ mile was covered over with logs, and the creek was diverted through three culverts. Most of the impacted creek was restored in 1993 and 1994, when the logs and two of the culverts were removed. One culvert, approximately 500 feet long, remains. This culvert was installed to accommodate construction and use of the Hidden Valley Ski Area base lodge. Wetlands associated with Hidden Valley Creek were also filled in for construction of the ski area parking lot. An ice skating pond was built next to the ski area base lodge in the mid-1950s.

During 1957 and 1958, new lifts were built at Hidden Valley, the skating rink was enlarged, vegetation was manipulated to widen runs, and shuttle bus service was offered between upper and lower Hidden Valley. The 1970s saw “more dramatic changes made at Hidden Valley” (Mehls 1992:10), including more vegetation manipulation to widen runs, addition of a long chair lift, and reconfiguration of the lodge.

In 1986, planning efforts were undertaken to guide future development and operation of the ski area, consistent with the 1976 Park Master Plan (RMNP 1987). By this time, the park administration considered the presence of the ski area within the park to be incompatible with management objectives (NPS 1992:19). The park sought to encourage development of an alternative ski area located outside of the National Park; subsequent to this event, Hidden Valley would be closed, and “return[ed] to a natural condition” (NPS 1987:1).

By 1990, the concessionaire, Estes Valley Recreation and Park District (EVRPD), was interested in expanding the facilities at the Hidden Valley Ski Area. The park found the EVRPD expansion proposal incompatible with management objectives, and the concessionaire withdrew from operations at Hidden Valley. By 1991, the park was

advertising for a new concessionaire. When there were no permit applications, the park decided to close the facility. Hidden Valley Ski Area was closed in the spring of 1992.

The current project proposal is intended to continue to provide limited recreational opportunities and visitor services at Hidden Valley, while providing for the protection of natural resources through interpretation and directed appropriate use.

Relationship to Other Planning Projects

Today, the Hidden Valley area is most easily accessed from Trail Ridge Road. The Hidden Valley Restoration project (99-02) was administratively approved as a categorical exclusion. In the National Park Service, categorical exclusions (CE) are “applicable to actions that, under normal circumstances, are not considered major federal actions and that have no measurable impacts on the human environment” (NPS 2001b:33). Project 99-02 included the following activities: restore cut and fill roads to natural slope grade, remove loading and unloading ski lift ramps, loosen compacted soils under the t-bar lift, pull rocks and down trees that were pushed off of ski runs back onto those runs, propagate local native species of plants, remove exotic plants, plant native species grown in greenhouse, survey for sensitive and rare plants on slopes and in adjacent forested areas, photographically monitor rehabilitation efforts, remove and/or bury concrete ski lift tower footings, remove snow fence, trash, snow making equipment, and phone lines, remove log berms lining ski runs, remove culvert and daylight 500 feet of Hidden Valley Creek currently confined to culvert, and restore riparian habitat in that 500 feet of Hidden Valley Creek.

The Rehabilitation of the Hidden Valley Area project (00-07) was also approved as a categorical exclusion. Project 00-07 includes the following activities: restore slopes to natural grade, daylight Hidden Valley Creek, remove parking area and reclaim wetlands, and demolish/remove existing buildings.

The proposed project would provide protection for these newly rehabilitated areas through appropriate use directed through formalized parking, picnic, trail, and restroom facilities, and through education and interpretation efforts. Without these improvements, it is likely that recreational use would still occur, causing social trails, picnic area spread, and use of the adjacent wooded areas as restrooms.

Rocky Mountain National Park has a Best Management Practices for Vegetation Restoration (RMNP 2001) used to guide rehabilitation and restoration projects in the park. This plan will be used to guide any restoration associated with construction. The proposed project will not conflict with the Vegetation Restoration Plan in any way.

The park is also currently working on an exotic plant management document (RMNP 2000 Draft; expected to be finalized in 2003). This document will guide efforts to control the introduction and spread of invasive exotic species of plants. When this plan is approved, it will guide efforts to control these species at Hidden Valley during

construction and rehabilitation of the construction area. The proposed project will not conflict with the draft Exotic Invasive Plant Management Plan.

The mission of Rocky Mountain National Park is to “preserve natural conditions and scenic beauties, and to provide the freest recreational use” (NPS 1992:8). The proposed project embodies this mission by providing for recreational use in an environmentally sensitive manner.

The Preferred Alternative is also consistent with The Statement of Management for Rocky Mountain National Park (NPS 1992:6-8), including:

- *Provide appropriate visitor services that create an opportunity for a safe and meaningful park experience*
Picnic and hiking opportunities, interpretive panels, and restroom facilities would be provided under the Preferred Alternative
- *Promote attitudes of stewardship toward park resources*
Interpretation of park resources and recent restoration efforts at Hidden Valley would instill a sense of stewardship in park visitors under the Preferred Alternative
- *Provide and maintain appropriate facilities and support services essential to the park mission*
The Preferred Alternative would provide comfort and contact facilities for park visitors in a popular recreation venue
- *Protect park values from adverse external and internal influences*
By providing for appropriate use, and interpretation of restoration efforts, the Preferred Alternative would help protect resources in the Hidden Valley area from overuse and misuse

Picnic and recreation facilities at Hidden Valley proposed under the Preferred Alternative would provide similar opportunities for park visitors that currently exist at other locations along Trail Ridge Road. Some of the existing facilities may be removed in the future due to environmental and safety concerns.

Issues and Impact Topics

A summary of the issues that were identified and the impact topics that were considered in detail in this EA are discussed below. Other topics that were eliminated from detailed study because there are no potential impacts are also discussed.

Issues

Topography, Geology, and Soils

How would excavation and grading during construction impact topography and soil resources and the success of revegetation following construction?

Water Resources

Would construction lead to increased sedimentation or pollution of Hidden Valley Creek? Would deicing chemicals used to clear the parking lot and paved walks adversely impact water quality? How would the proposed project affect Hidden Valley Creek restoration efforts? How would the proposed project affect potential creation of Greenback Cutthroat Trout habitat? What are the potential impacts to the stream fishery and aquatic life in streams adjacent to the proposed project area?

Vegetation

How much native vegetation would be lost or disturbed for the proposed improvements? How would disturbed areas be revegetated following construction? What would be done to prevent the introduction and spread of invasive exotic plant species? How would the proposed project affect the landscape restoration efforts at the site of the old Hidden Valley Ski Area?

Wetlands

Would there be short or long-term impacts to wetlands from the proposed project? How would this project affect the Hidden Valley Creek wetlands restoration project (00-07)?

Wildlife Resources

How would the proposed project activities affect wildlife? Would wildlife movement be affected by the proposed construction?

Threatened, Endangered, and Sensitive (rare) Species

How would threatened species including lynx and greenback cutthroat trout be impacted? Would candidate species such as the boreal toad be affected? Are there other sensitive plant or animal species within the project area that may be impacted?

Air Quality

Would the proposed project increase vehicle emissions from additional traffic or from operation of construction equipment?

Natural Soundscape

How much noise and disturbance would be expected during construction? Would there be any long-term change in the noise levels in the park?

Visitor Use and Experience

How would visitors be affected by the proposed project, both short-term and long-term? Would the Hidden Valley area be closed during construction, and for how long? Would there be shuttle bus service to this area? Would proposed parking be sufficient to accommodate park visitors? Would the proposed facilities increase use of the Hidden Valley area?

Visual Resources

How would the scenic quality of the Hidden Valley area change with the proposed facilities? What provisions would be made to protect the scenery?

Local and Regional Economy

How would local businesses be affected by the proposed project? Would there be any long-term impacts?

Impact Topics

Impact topics selected for detailed analysis

Impact topics were selected based on the issues identified above, and the need for detailed evaluation of the potential effect to resources of concern. Impact topics that were selected for detailed analysis include:

- topography, geology and soils
- water resources
- vegetation
- wetlands
- wildlife
- threatened and endangered species
- air quality
- natural soundscape
- visitor and employee experiences
- visual resources
- local and regional economy

Issues Topics Dismissed from Further Consideration

Environmental Justice. Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The proposed action would not have health or environmental effects on minorities or low-income populations or communities.

Prime and Unique Farmlands. In August of 1980, the Council on Environmental Quality (CEQ) directed that federal agencies must assess the effects of their actions on farmland soils classified by the U.S. Department of Agriculture’s Natural Resources Conservation Service as prime or unique. Prime or unique farmland is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts.

No prime or unique farmlands are present in Rocky Mountain National Park. Therefore, no prime or unique farmlands would be affected by either of the alternatives.

Wilderness. The location of the former Hidden Valley Ski Area is outside of the park's recommended wilderness area (NPS 2001a). However, the former Hidden Valley Ski Area is adjacent to recommended wilderness to the north, and potential wilderness to the west and south. Neither of the alternatives would result in direct effects to designated, recommended, or potential additions to wilderness lands. Neither alternative provides for increased access to existing or proposed wilderness areas.

Hazardous Material. Located entirely within Rocky Mountain National Park, the project area contains no known hazardous materials or contaminated sites. The potential introduction of hazardous substances during construction, such as fuel, hydraulic fluid, or other chemicals, would be closely regulated by best management practices as discussed in the *Environmental Consequences* chapter.

Energy Requirements and Conservation Potential. Rocky Mountain National Park would strive to incorporate the principles of sustainable design and development into the proposed facility and associated park operations. Sustainability can be described as the result achieved by doing things in ways that do not compromise the environment or its capacity to provide for present and future generations. Sustainable practices minimize the short- and long-term environmental impacts of developments and other activities through resource conservation, recycling, waste minimization, and the use of energy efficient and ecologically responsible materials and techniques. Building materials were salvaged from the old ski lodge; these materials would be used to the extent possible in construction of the new visitor services building.

The National Park Service's *Guiding Principles of Sustainable Design* (1993) provides a basis for achieving sustainability in facility planning and design, emphasizes the importance of bio-diversity, and encourages responsible decisions. The guidebook describes principles to be used in the design and management of visitor facilities that emphasize environmental sensitivity in construction, use of nontoxic materials, resource conservation, recycling, and integration of visitors with natural and cultural settings. Rocky Mountain National Park would ensure that the facility is designed to reduce energy costs, eliminate waste, and conserve energy resources by using energy efficient and cost-effective technology. Energy efficiency would also be incorporated into any decision-making process during the design, as well as all decisions affecting associated park operations. In addition, Rocky Mountain National Park would encourage suppliers, permittees, and contractors to follow sustainable practices and address sustainable park practices throughout construction.

Construction equipment use would result in only temporary, minor energy consumption during construction. Buildings will comply with the *Guiding Principles of Sustainable Design* (1993). Therefore, neither alternative will have a lasting effect on energy requirements and conservation potential.

Indian Trust Resources. Rocky Mountain National Park contains no trust lands. Therefore, neither alternative has the potential to affect Indian Trust Resources (Butler 2002, personal communication).

Cultural Resources. Hidden Valley Ski Area base lodge and associated buildings were determined ineligible for inclusion to the National Register of Historic Places (Colorado SHPO 1992); these buildings have or will be removed under project 00-07. An archaeological survey has been completed in the proposed project area, and no cultural resources are present that could be affected by the development proposal (Butler 2002; also see Appendix A). Three ski runs (Upper and Lower Pine, IFIS, and Juniper Ski trails) were determined eligible for inclusion to the National Register of Historic Places. These ski trails are in Upper Hidden Valley, outside of the proposed project area. American Indian consultation has been completed for Rocky Mountain National Park; there are no American Indian use area concerns in the proposed project area (Butler 2002, personal communication). No cultural landscapes exist in the proposed project area (Butler 2002, personal communication).

Lightscape Management. In accordance with National Park Service *Management Policies* (NPS 2001b), the National Park Service strives to preserve natural ambient landscapes, which are natural resources and values that exist in the absence of human caused light.

Rocky Mountain National Park would strive to limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements and would ensure that all outdoor lighting is shielded to the maximum extent possible, to keep light on the intended subject and out of the night sky. Therefore, lightscape management was dismissed as an impact topic.

Park Operations. The Hidden Valley snow play area is currently staffed by volunteers under the supervision of park rangers. This arrangement would continue if the Preferred Alternative were selected. Additionally, spring, summer, and fall volunteers may be added to staff the area.

The park maintenance division is currently responsible for facilities maintenance at Hidden Valley; this arrangement would continue if the Preferred Alternative were selected.

Selection of the Preferred Alternative would not result in an increased work load for park personnel at Rocky Mountain National Park. Therefore, park operations was dismissed as an impact topic.

Compliance with Federal and State Regulations

The National Park Service will comply with all applicable federal, state, and local regulations if the preferred alternative is selected and new restrooms, parking, leach field, picnic sites, and trails are constructed. In addition, the park will comply with all applicable NPS guidelines, provisions, acts, and regulations for the management of park

resources. Regulatory requirements for this project are expected to include the following permits and approvals:

- **National Environmental Policy Act (NEPA) and Regulations of the Council on Environmental Quality (CEQ)** – NEPA is far-reaching. Whenever the NPS considers an action that could have impacts on the human environment, NEPA is triggered. This is true whether the NPS generates the action or the applicant is a private individual or another federal, state, or local agency. While NEPA is only triggered when there is a physical impact on the environment, the CEQ regulations require analysis of social and economic effects in an EA.

Federal actions are defined as projects, activities, or programs funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; those requiring a federal permit, license, or approval; and those subject to state or local regulations administered pursuant to a delegation or approval by federal agency.

If a proposed project has the potential to cause environmental impacts, whether adverse or beneficial, the NEPA process must be completed before a decision is made.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and National Park Service Director's Order # 12 and Handbook, and regulations of the council on Environmental Quality (40CFR1508.9). This EA will be released to the public for a 30-day comment period. The National Park Service will determine whether the environmental consequences of the proposed action require preparation of an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

This EA analyzes one alternative for providing visitor services at Hidden Valley and a "No Action" alternative. The "No Action" alternative assumes that all approved projects at Hidden Valley (99-02 and 00-07) will be completed, and no additional work will occur once those projects are completed. Chapter 2 contains a description of the alternatives analyzed and considered; Chapter 3 contains a description of the affected environment; Chapter 4 contains the analysis of the environmental consequences for each of the alternatives.

This EA meets the requirements of NEPA and regulations of the CEQ in evaluating potential effects associated with activities on federal lands.

- **Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.)** – Section 7 of the ESA is designed to ensure that any action authorized, funded, or carried out by a federal agency would not be likely to jeopardize

the continued existence of any endangered or threatened plant or animal species. The Preferred Alternative has the short-term potential to affect water quality down stream from the project area during construction activities; a population of Greenback Cutthroat trout exists approximately one half mile down stream from the proposed project area which have the potential to be affected.

- **Clean Water Act** – The U.S. Army Corps of Engineers is responsible for authorizing the discharge of dredged or fill materials into waters of the U.S. including wetlands under Section 404 of the Clean Water Act. The preferred alternative has the potential to affect Hidden Valley Creek during construction activities.

In compliance with the Colorado Pollution Discharge Eliminations System (CPDES) requirements, a storm water discharge permit is required if a project disturbs greater than 5 acres (2 hectares). The preferred alternative would disturb 2.4 acres, and would not require a CPDES permit.

- **Executive Order 11988, Floodplain Management** – This order requires all federal agencies to avoid the construction of certain types of facilities in 100-year and 500-year floodplains unless no other practical alternatives exist. The preferred alternative is not located on a 100 year or 500 year floodplain, as identified by the Federal Emergency Management Agency (online flood hazard maps). Therefore, neither alternative will be affected by this order.
- **Executive Order 11990, Protection of Wetlands** – This order requires federal agencies to avoid, where possible, impacts to wetlands. The preferred alternative has the potential to affect wetlands in the construction phase.
- **National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S.C. 470 et. Seq.)** Section 106 of the NHPA requires all federal agencies to consider effects from any federal action on cultural resources eligible for or listed on the National Register of Historic Places (NRHP), prior to initiating such actions. The proposed project area has been subjected to pedestrian survey, and no eligible or listed cultural resources were located (Butler 1999 ; 2002b). Therefore, the Preferred Alternative would have no affect on cultural resources in the proposed project area.

Decision Process

An Environmental Assessment (EA) analyzes the proposed action and alternatives and their impacts on the environment, cultural resources, and socioeconomics. This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) and regulations of the Council on Environmental Quality (40 CFR 1508.9). The EA will be released to the public for a 30-day comment period. The National Park Service will determine whether the environmental consequences of the proposed action

require preparation of an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

This EA evaluates one action alternative that involves the development of visitor use facilities at Hidden Valley in Rocky Mountain National Park. A No Action alternative is evaluated for comparison. Chapter 2 describes the *Alternatives* under consideration, including the Preferred Alternative and the Environmentally Preferred Alternative. Chapter 2 also includes a summary table comparing the impacts of each alternative. Chapter 3 discusses the *Affected Environment* and Chapter 4 the *Environmental Consequences* for each of the alternatives.

Chapter 2

Proposed Action and Alternatives

This section of the Environmental Assessment describes the proposed action and other actions that were considered for providing visitor services at Hidden Valley. A full range of alternatives for meeting the project purpose and need were developed by a core interdisciplinary team, with input from public representatives. Criteria used in the selection of reasonable alternatives included:

- the ability to provide the public with an all-season recreational opportunity
- the ability to protect park resources, including restored ski slopes, wetlands, and Hidden Valley Creek

One construction alternative was identified for detailed analysis. The No Action Alternative provides a baseline against which environmental effects of the development alternative can be compared. Alternatives that were considered but eliminated from further consideration are also discussed. The Environmentally Preferred Alternative is identified, and a summary comparison of all alternatives is provided.

Alternative 1 – No Action

In the No Action Alternative, visitor services and facilities would not be developed at Hidden Valley. This alternative would allow for the completion of previously approved and ongoing projects in the Hidden Valley area. Previously approved projects include project number 99-02, the Hidden Valley Restoration Project, and project number 00-07, the Rehabilitation of the Hidden Valley Area Project.

The Hidden Valley Restoration Project (99-02) was approved as a categorical exclusion. Specific actions included in this project are:

- restore cut/fill roads to natural grade
- remove loading/unloading ski ramps
- loosen compacted soil under the T-bar lift
- pull rocks/trees back onto slopes
- propagate native species
- remove exotic species of plants
- plant native species of plants grown in the park greenhouse
- survey for sensitive/rare plants
- photographic monitoring of rehabilitation
- remove/bury concrete lift tower pads
- remove snow fence, trash, snow making equipment, phone lines
- remove log berms lining ski runs
- remove culvert/daylight Hidden Valley Creek
- restore Hidden Valley Creek (500 feet previously in culvert)

The Rehabilitation of the Hidden Valley Area Project (00-07) was also approved as a categorical exclusion. Specific actions included in this project are:

- restore slopes to their natural grade

- daylight Hidden Valley Creek
- remove parking area, and reclaim wetlands
- demolish existing buildings

Because the previously approved projects involve restoration of the natural environment at Hidden Valley, the No Action Alternative would result in complete restoration. Under the No Action Alternative, there would be no established visitor access to Hidden Valley.

Alternative 2 – Construction of New Visitor Services and Facilities at Hidden Valley

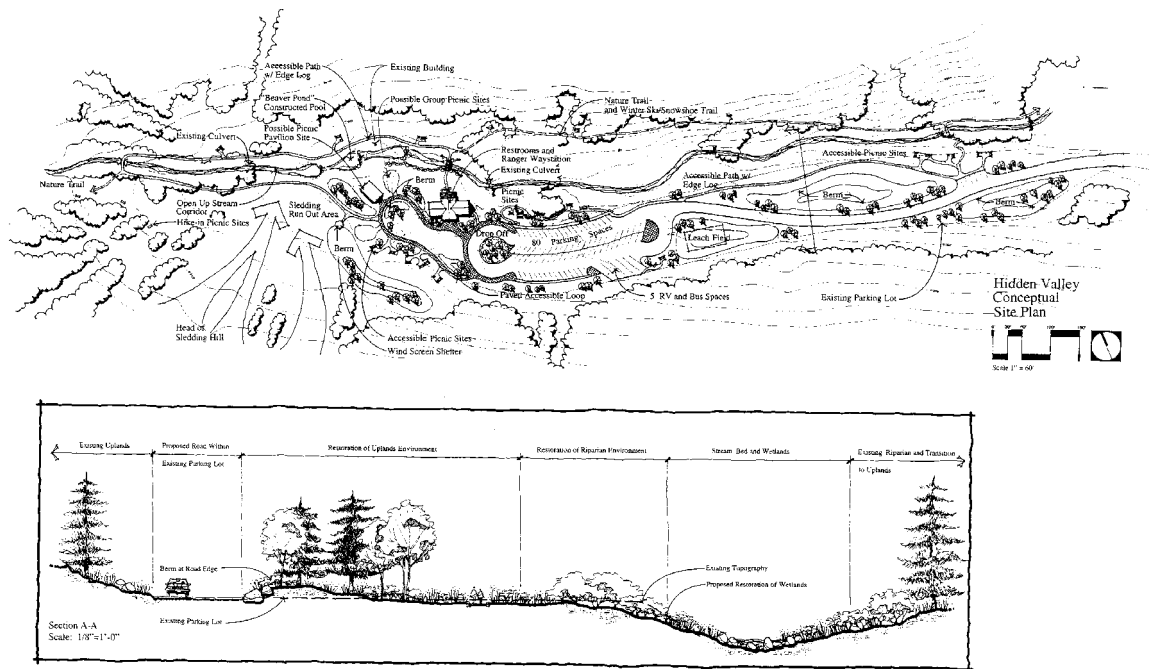
The Preferred Alternative is designed to provide basic visitor services on a year round basis, while providing protection for the areas restored under project numbers 99-02 and 00-07 (discussed above). The following projects are included in the Preferred Alternative (Figure 2):

- construction of a 2,571 square foot visitor contact station which includes restrooms (five stalls for women, three stalls for men), a multi-purpose room (456 square feet), office/Search and Rescue (SAR) storage space (145 square feet), and a 1102 square foot breezeway housing interpretive information
- construction of a parking lot; the current 500 car lot will be reconfigured and reduced to 122 car spaces (including accessible and government spaces) and 5 bus/recreational vehicle spaces
- construction of a 400 foot long by 10 foot wide paved interpretive loop trail (fully compliant with the Americans with Disabilities Act) with five picnic sites (one has a shelter with 4 tables)
- construction of a 2,800 foot long by 5 foot wide interpretive trail surfaced with crushed gravel with 15 picnic sites; this trail would be fully passable to wheelchairs, but would not be fully ADA compliant since grades may be more than 8.3%, and the tread surface would not be hardened (this trail would be compliant with the “Accessibility Guidelines for Outdoor Recreation Facilities” currently being developed by the federal government)
- construction of a leach field (about 4,800 square feet, maximum)
- construction of three “living snow fence” berms to be planted with native vegetation, immediately west of the proposed visitor contact building; these features are designed to precipitate snow to the west of the building rather than over the building entrance and parking area (40-60 feet long, 20-40 feet wide, 4-6 feet high, each)
- approximately 8,000 square feet (0.2 acres) of the slope to the west and northwest of the proposed building would be contoured to direct sleds away from the building and away from trees

New construction would utilize, to the extent possible, building materials salvaged from the dismantled Hidden Valley Ski Lodge (project number 00-07).

All of the development included in the Preferred Alternative, with the exception of approximately 1,600 feet of the crushed gravel trail and nine of the picnic sites, would be

Figure 2: Schematic Plans for Proposed Development at Hidden Valley under the Preferred Alternative



located within the footprint of the demolished buildings and Hidden Valley Ski Area parking lot. The 1,600 feet of trail, and 9 picnic sites would be located in areas previously disturbed for ski runs and lifts. Any sections of the trail that would be adjacent to area designated as “potential wilderness addition” would comply with wilderness specifications for tread construction and signage.

Construction of the proposed visitor services and facilities at Hidden Valley could begin as early as the spring of 2003. The total estimated cost of constructing Alternative 2 is approximately \$1.6 million.

Alternatives Excluded from further Consideration

Restore Hidden Valley to an Alpine Ski Resort

This alternative would include restoration of existing buildings and equipment, and construction of new buildings and facilities. New ski lifts would be installed, and ski runs would be cleared and contoured. This alternative was excluded from further consideration because “it is recognized by the Service that Hidden Valley Ski Area is fundamentally inconsistent with the purposes for which Rocky Mountain National Park was established” (NPS 1992:19). This alternative is also in direct conflict with approved and on-going restoration projects at Hidden Valley (see discussion of project numbers 99-02 and 00-07, above). The expected high cost of implementing this alternative would also be prohibitive.

Renovate the Existing Generator Building for Use as a Warming Hut

This alternative includes adaptive reuse of the existing generator building, installation of a vault toilet, use of part of the existing parking lot (39 spaces), development of 14 gravel picnic sites (pad and table), and low level site lighting for the parking lot and walkways. This alternative was excluded from further consideration because the size (796 square feet) of the generator building and a single vault toilet are insufficient to accommodate the numbers of visitors regularly using Hidden Valley (Table 1).

Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act (NEPA) of 1969, which is guided by the Council of Environmental Quality (CEQ). The CEQ provides direction that the environmentally preferable alternative is the alternative “that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural and natural resources.” As expressed in NEPA’s Section 101, “it is the continuing responsibility of the Federal Government to:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

Table 1: Visitor Use Statistics for the Hidden Valley Snow Play Area

Month/Year	Number of Visitors	Hours Staffed for the Month
Dec, 2000	1648 visitors	89 hours
Jan, 2001	359 visitors	44.25 hours
Feb, 2001	340 visitors	30.5 hours
March, 2001	652 visitors	47.25 hours
April, 2001	107 visitors	20 hours
TOTAL 2000/2001 SEASON	3106 VISITORS	231 HOURS
Dec, 2001	1925* visitors	238 hours
Jan, 2002	490 visitors	192 hours
Feb, 2002	1165 visitors	147 hours
March 2002	1472 visitors	198 hours
April 2002	140 visitors	78 hours
TOTAL 2001/2002 SEASON	6192 VISITORS	853 HOURS

* In excess of 100 visitors using the slopes simultaneously on occasion

- Assure for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- Preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choices;
- Achieve a balance between population and resource use that will permit high standards of living and wide sharing of life's amenities; and
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

The Environmentally Preferred Alternative for Hidden Valley is based on these national environmental policy goals; simply put, "this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (NPS 2001b:23). A discussion of how each alternative meets these goals follows.

Alternative 1 – No Action

This alternative does not fully meet the provisions of the environmental policy goals (Section 101 of NEPA) because it does not provide for enhanced visitor safety for winter recreational users; it doesn't attain the widest use of the environment without degradation, risk of health or safety, or other unintended consequences (no access); it wouldn't support diversity and a variety of individual choices (no access); and it would not achieve a balance between population and resource use.

Alternative 2 – Construction of New Visitor Services at Hidden Valley

This alternative seeks to meet the environmental policy goals by providing the public with all-season recreational opportunities, while protecting natural resources through directed appropriate use, and interpretation and education. Visitor services (restrooms, parking, picnic facilities) will assure a quality recreational experience, while improvements including an interpretive trail and interpretive panels in the visitor contact station will direct appropriate use of the area and educate visitors about the natural environment and recent restoration efforts (projects number 99-02 and 00-07).

Park personnel have removed manmade and natural obstacles from the snow play area in recent years to improve visitor safety. Visitor safety would be additionally enhanced through construction of earth berms designed to physically guide users to appropriate snow play areas.

This alternative would result in temporary disturbance to the natural environment during construction, and long-term impacts from the presence of the building, picnic sites, interpretive trail, sledding hill, parking lot, and people.

The environmentally preferred alternative is Alternative 2 because it most closely meets the range of environmental policy goals as stated in Section 101 of the NEPA. Alternative 1, the No Action Alternative, does not fully meet this range of environmental policy goals.

Summary

Table 2 provides a summary of the methods that each alternative would use to ensure that project objectives are met. Table 3 provides a summary comparing the potential effects of the No Action Alternative, and the Preferred Alternative. Chapter 4, Environmental Consequences, provides additional description of the impact of these actions for each resource.

Species listed as threatened and/or endangered are afforded federal protection, and are considered “federally listed”. The Colorado Natural Heritage Program (CNHP) maintains a list of species that it considers rare and/or sensitive, along with a rank for each species. For the purpose of this document, sensitive (rare) species are those that are not federally listed, but are CNHP listed and ranked. See Appendix B for further explanation of CNHP listing and ranking.

Table 2. Method Each Alternative Uses to Meet Project Objectives

Goal	Alternative 1: No Action	Alternative 2: Preferred
Provide for Visitor Safety and Enjoyment	<ul style="list-style-type: none"> - no formal access to Hidden Valley area provided <ul style="list-style-type: none"> - no parking - no restrooms - no trails - no picnic sites - no snow play area <p>Visitor enjoyment would not be provided for due to lack of services.</p>	<ul style="list-style-type: none"> - continued use of Hidden Valley for snow play and all-season recreation - improve safety by construction of earth and vegetation berms to direct sledders to appropriate snow play areas - provide restroom facilities for visitors - provide picnic sites for visitors - provide interpretive trail (one loop meets ADA standards) - provide car/RV/bus parking - provide multi-purpose room for public programs - provide office/staging area for park personnel (including emergency phone service and storage for emergency Search and Rescue equipment)
Protect Natural Resources	<ul style="list-style-type: none"> - protection of resources would be attempted through removing formal access to the Hidden Valley area <ul style="list-style-type: none"> - a history of heavy use makes it likely that park users would continue to frequent this area until mature vegetation is established, creating social trails, erosion, vegetation damage, soil compaction, and health risks from improper disposal of human waste 	<ul style="list-style-type: none"> - areas restored during separate projects would be protected through directed appropriate use and education: <ul style="list-style-type: none"> - constructed trails directing appropriate pedestrian use - formalized picnic sites - interpretive panels to explain restoration effort, and to provide a preservation message - interpretation of resources on the trails

Table 3. Summary Comparison of Alternatives and Impacts

Impact Topic	Alternative 1: No Action	Alternative 2: Preferred
Topography, Geology, and Soils	If removing formalized recreational access to this area is successful, there will be no impacts to topography, geology or soils. If informal use of the area continues, lack of directed appropriate use could lead to erosion along Hidden Valley Creek, establishment of social trails, and compaction of soil in heavily used areas.	Approximately 2.4 acres of previously disturbed soils and topographic resources would be affected by construction of a visitor contact/restroom facility, a parking lot, a leach field, picnic sites, an interpretive trail, and earth and vegetation berms for a living snow fence. Short-term, reversible effects to surrounding topographic, geologic and soils resources may occur during construction activities. Mitigation measures would provide for recontouring and loosening of the soil to the extent practical after construction. Long-term beneficial effects would be realized through appropriate use of the Hidden Valley area, accomplished by directed use (trails, established picnic sites), and interpretation/education.
Water Resources	If removing formalized recreational access to this area is successful, there will be no impacts to water resources. If informal use of the area continues, water resources may be adversely impacted by increased sedimentation from stream bank erosion caused by inappropriate human use of the area. Lack of restroom facilities may cause pollution from human waste near the stream.	A short-term increase in siltation and turbidity in Hidden Valley Creek may occur during construction activities. Mitigation measures would minimize the potential introduction of sediment to Hidden Valley Creek through the placement of filter barriers. Long-term impacts from parking lot run-off would be minimized through drainage design. Long-term beneficial effects would be realized through appropriate use of the Hidden Valley area, including directed use (trails, established picnic sites), and interpretation/education.
Vegetation	If removing formalized recreational access to this area is successful, there will be no impacts to native vegetation. If informal use of the area continues, possible trampling and denuding of vegetation, and social trails may adversely impact vegetation.	Short-term impacts to vegetation would occur during construction activities. Permanent loss of vegetation habitat will occur in the footprint of the building, the parking lot, picnic sites, and the interpretive trail. Native vegetation would benefit in the long run by directing appropriate recreational use to the constructed improvements (building, parking, trail, picnic sites). Areas disturbed during construction would be revegetated with native plant species. Management measures to control the spread or introduction of exotic and noxious weeds would be implemented.

		Long-term beneficial effects will be realized through appropriate use of the Hidden Valley area, including directed use (trails, established picnic sites), and interpretation/education.
Wetlands	If removing formalized recreational access to this area is successful, there will be no impacts to the Hidden Valley wetlands. If informal use of the area continues, trampling of wetland vegetation, and increased erosion/turbidity along Hidden Valley Creek may adversely impact associated wetlands.	Hidden Valley wetlands might be temporarily impacted during the construction period of this project; best management practices will be used to minimize this short-term impact. Directed appropriate use and interpretation/education on site would be used to protect the wetlands restoration accomplished under project number 00-07; this would be a beneficial effect.
Wildlife Resources	If removing formalized recreational access to this area is successful, there will be no impacts to wildlife. If informal use of the area continues, minimal disturbance to terrestrial animals and birds can be expected. Turbidity in Hidden Valley Creek caused by social trails and erosion of creek banks may adversely affect aquatic species.	Temporary disturbance to terrestrial, avian, and aquatic species may occur during the construction period. Some long-term impacts to wildlife are expected from the increased potential for contact with humans in the area, and from the loss of approximately 2.4 acres (building, parking lot, and paved path) of potential habitat. Although the number of people using the area would increase compared to the no action alternative, the number of users would most likely remain the same or slightly increase from use between 1992 and 2001.
Threatened, Endangered, and Sensitive (Rare) Species	If removing formalized recreational access to this area is successful, there will be no impacts to threatened, endangered, or rare species. If informal use of the area continues, impacts to these species will be similar to conditions experienced from 1992 through 2001. These impacts included occasional trampling of sensitive plants, possible disruption of bald eagle, peregrine falcon, boreal owl and northern goshawk activities due to human presence, and possible disruption of greenback cutthroat trout habitat caused by erosion and silting associated with social trails.	Minor long-term impacts to threatened, endangered, and rare species may occur due to the presence of people. Potential short-term impacts to greenback cutthroat trout would be mitigated through the use of filtration barriers during construction. Sensitive plant populations (appendix B) will be avoided during construction activities. Construction activities will be excluded from the old growth spruce/fir forests, which is habitat for these plant species.

Air Quality	There will be no impacts to air quality.	Temporary adverse impacts to air quality would occur during construction. Long-term adverse affects to air quality would occur in the form of automobile, RV, and bus emissions. Emissions would be limited by the number of vehicles that can access the area at any given time. Fire grates at about 2/3 of the picnic sites would also contribute to air-born particulate matter.
Natural Soundscape	If removing formalized recreational access to this area is successful, there will be no impacts to the natural soundscape. If informal use of the area continues, minimal disturbance to the soundscape may be expected from human voices. Noise intrusion associated with the near-by Trail Ridge Road would remain the same.	Temporary adverse impacts to the natural soundscape would occur during construction. Long –term affects would occur from human voices and from automobiles. Noise intrusion associated with near-by Trail Ridge Road would remain the same.
Visitor Use and Experience	The lack of formal access to the Hidden Valley area will take effect upon completion of restoration projects 99-02 and 00-07. This lack of access would continue under the “no action” alternative.	Visitor use and experience would be beneficially impacted by development of restrooms, picnic sites, an interpretive trail, and parking facilities. Potential adverse impacts may be felt by visitors seeking a less developed, informal experience at Hidden Valley.
Visual Resources	If removing formalized recreational access to this area is successful, there will be no impacts to visual resources. If informal use of the area continues, disturbance to visual resources may occur in the form of social trails, trampled vegetation, areas denuded of vegetation, and erosion along trails and Hidden Valley Creek. Visual impacts from near-by Trail Ridge Road will not change.	Short-term impacts from construction related dust, and actual construction activities would occur. Long-term effects would consist of construction of a building, parking lot, picnic sites, and an interpretive trail. Visual impacts from near-by Trail Ridge Road will not change. The removed ski lodge building (project 00-07) was approximately 33 feet tall, and 6,343 square feet.
Local and Regional Economy	Upon completion of restoration projects 99-02 and 00-07, formal access to the Hidden Valley area will be removed. There will be no additional impacts to local and regional economies under the “no action” alternative.	Local and regional economies would benefit from proposed development at Hidden Valley. Construction of a comfort/contact building, picnic sites, interpretive trail, and parking facility will draw users to the area; these visitors would secure lodging, food and incidentals in Estes Park.

Chapter 3

Affected Environment

This chapter of the Environmental Assessment for the Hidden Valley Improvement Project describes the natural and socio-economic resources that could potentially be affected by proposed activities at Hidden Valley.

Natural Resources

Topography, Geology, and Soils

Hidden Valley (Figure 1) is situated in a glacially carved valley, east of the Continental Divide at about 9400 feet (2865 m) above sea level. This is a small valley originating from Trail Ridge; the last glaciers to shape the proposed project area occurred during the Bull Lake glaciation (ended 70,000 – 87,000 years ago). This area was not affected by the later Pinedale glaciation or the most recent Neoglacial period (Richmond 1974:33-50).

Soils in the Hidden Valley are primarily classified in the Ypsilon Series, with a Kawuneeche Series component along the creek and in the vicinity of the beaver ponds (Natural Resources Conservation Service 2000). Soils in the Ypsilon Series are derived from colluvium and till of granite, gneiss, and schist, and are somewhat excessively drained. These soils are characterized by gravelly coarse sandy loam, and steep slopes. Kawuneeche Series soils are derived from alluvium and sandy/gravelly glaciofluvial deposits of granite, schist, and gneiss, and are poorly drained. These soils are characterized by mucky peat over clay loam, in relatively flat areas. The proposed project area is located entirely on Ypsilon Series soils, but Kawuneeche Series soils are near by.

Current research being conducted by Michael Petersen (U.S. Department of Agriculture, Natural Resources Conservation Service) has identified soil in the Spodosol order in upper Hidden Valley. This is the first report of a Spodosol in Colorado (Petersen 2000), although it is located outside of the proposed project area.

The boundary for the topography, geology, and soil resources likely to be affected by this project is limited to the areas of direct disturbance associated with construction of the building, the parking lot, picnic sites, and the interpretive trail.

Water Resources

Hidden Valley Creek, a perennial water course on the east side of the continental divide that feeds Fall River, runs through the northern part of the proposed project area. The proposed interpretive trail is located on both sides of Hidden Valley Creek for approximately 1440 feet (Figure 2). The proposed interpretive trail contains pedestrian bridges that cross the creek at four points along the trail. Ten picnic sites located along the interpretive trail would have direct access to Hidden Valley Creek. The interpretive trail would be parallel to the creek (on both sides through much of the project area) at a

distance ranging from 20 to 120 feet, with an average distance of approximately 60 feet between Hidden Valley Creek and the interpretive trail.

Hidden Valley Creek was redirected and confined to a culvert for a stretch of about 500 feet during the Hidden Valley Ski Area construction. Restoration work initiated for projects 99-02 and 00-07 includes locating the original channel, and restoring the creek to that channel. If the original channel can not be identified, an appropriate channel north of the old ski area buildings and parking lot will be used. The stream relocation and restoration work would occur concurrently with the proposed developments at Hidden Valley.

The boundary for the water resources likely to be affected by this project includes the area surrounded by the proposed interpretive trail, the area north of the proposed parking lot, and the stream course down to the beaver ponds located approximately 3/4 mile downstream of the proposed project area.

Vegetation

Hidden Valley is located in the subalpine environment. A climax Engelmann spruce-subalpine fir forest has developed on the northern exposures. Huckleberry, kinnikinnick, and a variety of lichens and mosses dominate the understory of these spruce-fir forests. On southern exposures and drier sites, mixed lodgepole pine-Engelmann spruce forests have developed. On southern exposures and wetter sites, aspen is present. Understory in the mixed pine-spruce consists of huckleberry, kinnikinnick, common juniper, waxflower, and various sedges and grasses (NPS 1987).

The spruce-fir forest contains localized populations of a variety of mosses and lichens. *Pleurozium Schreberi* is a bryophyte in the *Entodontaceae* family. This bryophyte is known in Colorado only in this location. *Hypocomium Splendens*, or stairstep moss, is uncommon in Colorado. *Melanelia Septentrionalis* is a lichen that is reported in Colorado only from Hidden Valley (although outside of the project area).

Native vegetation in this area has been severely altered by previous activities, primarily development of the Hidden Valley Ski Area. With the exception of 1600 feet of the interpretive trail, and nine of the picnic sites, all of the proposed facilities are within areas that were disturbed by the Hidden Valley Ski Area base lodge and parking lot. The 1600 feet of trail and nine picnic sites located away from ski area base facilities are located in areas heavily impacted by ski run contouring and clearing, which are being restored under projects 99-02 and 00-07.

The boundary for the vegetation resources likely to be affected by this project includes the area identified for the building, the parking lot, picnic sites, the interpretive trail, and vegetation associated with wetlands on Hidden Valley Creek downstream from the proposed building site (see description of affected environment for wetlands, below).

Wetlands

Wetlands associated with Hidden Valley Creek occur approximately ¼ mile downstream of the proposed construction area. The downstream wetlands are associated with an abandoned beaver colony along Trail Ridge Road. Wetlands once existed in the area occupied by the existing parking lot and recently removed buildings; these wetlands were filled in when the ski area parking lot and buildings were constructed. Project 00-07 will reclaim the wetlands that were filled in during the ski area parking lot and buildings construction.

The boundary for the wetlands resources likely to be affected by this project includes the newly restored wetlands area and the abandoned beaver colony ¾ mile downstream.

Wildlife Resources

Rocky Mountain National Park is home to a variety of avian, terrestrial and aquatic wildlife species. About 260 species of birds, 66 species of mammals, 11 species of fish, five species of amphibians, and one species of reptile are found in the park. The distribution of species in the park varies by season, elevation, and the variety of habitats present. The National Park Service (NPS) manages habitat for wildlife species, while the U.S. Fish and Wildlife Service (USFWS) and the Colorado Division of Wildlife (CDOW) manage animal populations.

Animals frequenting the Hidden Valley area are typical of the sub-alpine and alpine regions. Common species include snowshoe hare, porcupine, chickaree, deer mouse, yellow-bellied marmot, pine marten, short-tailed weasel, mule deer, elk, fox, gray jay, Clark's nutcracker, and mountain chickadee (NPS 1987). Black bear frequent the area in the fall to feed on limber pinecones in preparation for winter (NPS 1987). Potential black bear den sites occur in the Hidden Valley area (west and north of the project area), but no known den sites have been observed (Zeigenfuss 2001). Because of the heavy historic use of this area as a developed ski resort, and later as a snowplay area, it is unlikely that bears den in this area. The closest recorded den sites are located in Hanging Valley and Forest Canyon, approximately 1 – 2 miles north and west (respectively) of Hidden Valley. Mountain Lion may occasionally pass through the Hidden Valley area. Prairie Falcon (rare) and peregrine falcon (rare) have been observed in the Hidden Valley area, but suitable nest habitat (cliffs) is not present at Hidden Valley and no nest sites have been observed. Two major elk migration routes pass through the area. Hidden Valley is used on the fall migration to the winter range, and on the return migration in the spring. Openings created by the ski runs provide spring, summer and fall feeding areas for elk and deer (NPS 1987). Additionally, a herd of bull elk have been observed spending the winter in the Hidden Valley Creek drainage on the exposed slopes along the existing parking lot.

Research on butterflies in RMNP is ongoing (Rich Bray, personal communication 2002). Species that might have resident colonies in the Hidden Valley area include:

Rocky Mountain Parnassian (*Parnassius smintheus*)

Western Tier Swallowtail (*Papilio rutulus*)

Margined White (*Pieris marginalis*)

Purplish Copper (*Lycaena helloides*)
Thicket Haristreak (*Callophrys spinetorum*)
Arctic Blue (*Agriades glandon*)
Greenish Blue (*Plebejus saepiolus*)
Northern Crescent (*Phyciodes cocyta*)
Green Comma (*Polygonia faunus*)
Milbert's Tortoiseshell (*Nymphalis milberti*)
Chryxus Arctic (*Oeneis chryxus*)
Persius Duskywing (*Erynnis persius*)
Western Branded Skipper (*Hesperia Colorado*)
Draco Skipper (*Polites draco*)

The boundary for the wildlife habitat likely to be affected by this project includes the area identified for the building, the parking lot, picnic sites, the interpretive trail, and areas around these facilities that visitors might frequent.

Threatened, Endangered, and Sensitive (Rare) Species

Federally Listed Species

Hidden Valley contains habitat for three federally listed species (Appendix B). These species are listed as threatened by the U.S. Fish and Wildlife Service, and are likely to become endangered within the foreseeable future. Threatened species have legal protection under federal law. Species listed as present in Larimer County (U.S. Fish and Wildlife Service letter of consultation, Appendix A) but not addressed in this Environmental Assessment are omitted because they have not been observed and/or specific habitat types do not exist in the Hidden Valley area of Rocky Mountain National Park.

Greenback Cutthroat Trout. Greenback cutthroat trout (*Oncorhynchus clarki sttomias*) is the only native federally listed trout species present in the park. The introduction of non-native rainbow trout, brook trout, and brown trout in the early 1900s resulted in a decline in the native cutthroat population. Non-native trout species compete with greenback cutthroat and interbreeding results in hybridization and loss of genetic purity. The park stopped stocking non-native fish species in the early 1960s and is currently working to restore greenback cutthroat trout populations.

Hidden Valley was the first site for a roadside greenback cutthroat trout restoration project in 1973 (USDOI 2001). This restoration project occurred about ¾ mile down stream from the proposed visitor contact station and restroom facility. Exotic species of fish were removed by poisoning, electrofishing, and netting, and greenback cutthroat trout were stocked. The beaver ponds proved to be a difficult environment to remove exotic species from, and the removal process was never completely successful. Due to the changing habitat (abandonment of the beaver ponds), the U.S. Fish and Wildlife Service will attempt additional reintroduction efforts along this stretch of Hidden Valley Creek (US DOI 2001). The on-going restoration of Hidden Valley Creek in the vicinity of the old ski lodge (project numbers 99-02 and 00-07) will provide continuous potential habitat upstream from the reintroduction site. Although "Hidden Valley Creek does not

meet the requirements of a stable, self-sustaining population as defined by the Greenback Cutthroat Trout Recovery Plan” (U.S. Department of the Interior 2001:53-54), restoration efforts at the old ski area may create habitat to sustain a viable population of greenback cutthroat trout in the future.

Bald Eagle. Bald eagles (*Haliaeetus leucocephalus*) occasionally traverse the proposed project area. Nest sites are found near lakes and rivers; no nest sites have been recorded along Hidden Valley Creek or in the greater Hidden Valley area. Trail Ridge is part of a migration corridor for raptors, as are Lumpy and Deer Ridges (Jeff Connor, personal communications 2001). Although bald eagles have been observed flying over the area, their use is likely confined to migration and occasional use rather than resident use.

Lynx. Although no lynx (*Lynx canadensis*) have been observed in the proposed project area, Hidden Valley is considered lynx habitat. The entire park is a Lynx Analysis Unit (LAU; Colorado Division of Wildlife). Additionally, three linkage areas or travel corridors linking the east and west sides of the Continental Divide have been identified; the three corridors are the Mummy Pass linkage, the Forest Canyon linkage, and the Boulder/Grand Pass linkage.

Sensitive/Rare Species

Sensitive/rare species are species thought to be in danger of becoming federally threatened species. While these species lack legal protection under the Endangered Species Act (ESA), it is within the spirit of the ESA to consider restoration or enhancement of habitat for non-listed species, and to protect those sensitive species. NPS 77 Guidelines and the U.S. Fish and Wildlife Service (USFWS) encourage agencies to prevent or stop human-related activities causing listing and therefore protection under the ESA.

Moonwort. Moonwort (*Botrychium lunaria*) is a Colorado Natural Heritage Program (CNHP) ranked species. CNHP ranked species receive both a global rank (G) and a state rank (S). Moonwort is ranked G5 (demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery), and S2 (imperiled in the state because of rarity – 6 to 20 occurrences, or because of other factors demonstrably making it very vulnerable to extirpation from the state) by the CNHP. Moonwort is found in Hidden Valley in small openings in old growth spruce/fir forests. The only site record in Rocky Mountain National Park for this plant is the forest immediately south of the old ski area parking lot.

American Peregrine Falcon. The peregrine falcon (*Falco peregrinus anatum*) is listed as a species of state special concern by the CNHP. This species is ranked T4 (trinomial rank used for subspecies or varieties; apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery), and S2B (refers to the breeding season imperilment of species that are not permanent residents; imperiled in state because of rarity – 6 to 20 occurrences, or because of other factors demonstrably making it very vulnerable to extirpation from the state). Peregrine falcons have been observed in the proposed project area, but do not nest in the Hidden Valley area.

Wolverine. The wolverine (*Gulo gulo*) is listed as a federal candidate species, and a state endangered species. This wide-ranging mammal frequents heavily forested habitat at high elevations; there is no confirmation of relict wolverine populations in the park, and it is believed that the wolverine has been extirpated. The park and the Colorado Division of Wildlife (CDOW) have considered the reintroduction of wolverine in the park (Siedel et al. 1998). Wolverine reintroduction has been delayed, pending the results of lynx reintroduction. The CNHP ranking for wolverine is G4 (apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery), and S1 (critically imperiled in state because of extreme rarity – 5 or fewer occurrences or very few remaining individuals, or because of some factor of its biology making it especially vulnerable to extirpation from the state).

Northern Goshawk. Northern goshawk (*Accipiter gentilis*) has been observed in the Hidden Valley area, but no nests have been documented. The nearest known nest site is Upper Beaver Meadows, about 4 miles southeast of the proposed project area. Northern goshawk occasionally use the Hidden Valley area for hunting territory (ROMO Flora and Fauna Databases). This species ranked G5 (demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery) and S3B (refers to the breeding season imperilment of species that are not permanent residents; vulnerable in the state – 21 to 100 occurrences) by CNHP.

Boreal Owl. The boreal owl (*Aegolius funereus*) has been observed in the old growth spruce/fir forests in the Hidden Valley Basin. Although there are no known nest sites located in or near the proposed project area, it is possible that boreal owls are nesting in the old growth forests in Hidden Valley. This species is ranked G5 (demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery) and S2 (imperiled in state because of rarity – 6 to 20 occurrences, or because of other factors demonstrably making it very vulnerable to extirpation from the state) by the CNHP.

Air Quality

Rocky Mountain National Park is classified as a mandatory Class I area for air quality. Class I areas are given the highest priority for air quality. The 1977 Clean Air Act Amendments recognize the need to protect visibility and air quality in national parks. Emissions related to visibility are monitored through a joint effort of the National Park Service, U.S. Forest Service, U.S. Fish and Wildlife Service, Bureau of Land Management, and Environmental Protection Agency. This joint effort formed the federally coordinated Interagency Monitoring of Protected Visual Environments (IMPROVE) and the Interagency Workgroup for Air Quality Modeling. The park currently contains four active IMPROVE air quality monitoring stations. Approximately 90 percent of park visibility impairment is the result of pollution sources outside of the park (NPS 2001a).

If the Preferred Alternative is selected, the boundary for air quality resources likely to be affected by this project would include the construction site for the proposed

improvements during construction, and the proposed new parking lot after construction has been completed.

Natural Soundscape

An important part of the NPS mission is to preserve natural soundscapes, and to protect natural soundscapes from degradation due to noise (undesirable human-caused sound) (DO-47). The natural soundscape is the aggregate of all the natural sounds that occur in parks, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive, and can be transmitted through air, water, or solid materials. Some natural sounds in the natural soundscape are also part of the biological or other physical resource components of the park. Examples of such natural sounds include:

- sounds produced by birds, frogs, or katydids to define territories or aid in attracting mates;
- sounds produced by bats to locate prey or navigate;
- sounds received by mice or deer to detect and avoid predators or other danger; and
- sounds produced by physical processes, such as wind in the trees or running water

The natural soundscape at Hidden Valley is currently negligibly impacted by the presence of Trail Ridge Road, which parallels the valley for about 2 miles, eventually crossing Hidden Valley twice at higher elevations. Formal access to the Hidden Valley area is ongoing, but would be removed upon completion of project 00-07, if the preferred alternative is not implemented. Removal of formal access would also eliminate some, but not all, human voice noise, and all associated vehicle noise.

The boundary for natural soundscape resources likely to be affected by this project include the proposed construction and development area, with an approximately ½ mile buffer in all directions.

Socioeconomic Resources

Visitor Use and Experience

Rocky Mountain National Park was established in 1915; approximately 15,000 people visited the park in the first year. Since 1994, visitation has exceeded 3 million visitors per year. In 2001, approximately 3,318,300 visitors entered the park. For the past decade, visitation has increased an average of two percent per year. Visitors are currently permitted access to the old ski resort area; this access will be removed with the implementation of the restoration projects (project numbers 99-02 and 00-07) if the Preferred Alternative is not implemented.

Visual Resources

Rocky Mountain National Park provides spectacular scenery of natural landscapes including rugged mountain peaks, alpine tundra, forests, rivers, and meadows. Many of

the visitors to the park are drawn by the outstanding visual qualities. Artificial openings created to facilitate skiing at the Hidden Valley Ski Area are visible from Trail Ridge Road. The location of the proposed improvements is visible from a few places along Trail Ridge Road, and proposed improvements would be visible from one overlook.

Local and Regional Economy

Rocky Mountain National Park is one of the most popular tourist attractions in Colorado. Local economies of towns adjacent to the park are directly tied to park visitor expenditures. Hidden Valley is one of two designated snow play areas on the east side of the park, and the site of choice for sledding. As such, Hidden Valley provides a unique recreational opportunity and draws visitors to the area during winter months. Local merchants (represented by the Estes Park Chamber Resort Association) are very interested in the continuation of a snow play area at Hidden Valley, because it draws visitors to the local community for services. Upon completion of the approved and on-going restoration projects (99-02 and 00-07), and barring the development of any visitor services or facilities as proposed in the Preferred Alternative, Hidden Valley would no longer be a designated snow play area, and formal access and facilities would not be provided.

Chapter 4

Environmental Consequences

This chapter includes a description of the potential environmental impacts on the resources discussed in *Chapter 3 – Affected Environment*, from implementation of the No Action and Preferred Alternatives. Potential impacts were identified for each of the alternatives based on a review of relevant scientific literature, previously prepared environmental documents, field investigations, and the best professional judgement of resource specialists.

Methodology

This chapter is organized by resource, and is the scientific and analytic basis for the comparison of alternatives. Impacts are described in terms of context (effects are site-specific, local, or regional), duration (short- or long-term), and intensity (none, negligible, minor, moderate, major). The thresholds of change for the intensity of an impact are defined as follows:

- No Impact – there is no discernable impact
- Negligible – the impact is at the lowest level of detection
- Minor – the impact is slight, but detectable
- Moderate – the impact is readily apparent
- Major – the impact is a severe or adverse impact, or of exceptional benefit

Short-term impacts are those that are typically less than several years in duration, such as temporary construction disturbance. Long-term impacts last many years and sometimes result in permanent changes in land use.

Impacts may be direct, indirect, or cumulative:

- Direct Effects – caused by an action and occur at the same time and place as the action
- Indirect Effects – caused by the action and occur later in time or farther removed (physically) from the place of the action
- Cumulative Effects – defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively significant actions taking place over time. The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act, require assessment of cumulative impacts in the decision making process for federal projects. Cumulative impacts are considered for both the no-action and proposed action alternatives.

Past Actions and Reasonably Foreseeable Activities

Cumulative effects were determined by combining the impacts of the proposed alternative with potential other past, present, and reasonably foreseeable future actions.

Therefore, it was necessary to identify other ongoing or foreseeable future projects within Rocky Mountain National Park. Reasonably foreseeable future activities analyzed in this EA are those actions independent of improvements proposed for the Hidden Valley area, that could result in cumulative effects when combined with the effects of the proposed project. The cumulative effects analysis area includes the Hidden Valley area and/or Rocky Mountain National Park as appropriate for each resource. The past and foreseeable future activities and associated impacts are discussed below.

Past Actions. A variety of previous activities, including construction and operation of the Hidden Valley Ski Area, have modified resources in the project area. Prior to use for skiing, Hidden Valley was the site of several sawmill and logging operations. A fire at one of the mills grew into a wildland forest fire in 1900, and burned trees were subsequently logged (Pedersen 1993:203). The Hidden Valley Ski Area operated from 1954 through the spring of 1992. After the ski area closed, Hidden Valley continued to be a popular winter recreation site, providing for sledding and access to backcountry snow shoeing, skiing, and snow boarding. Spring, summer, and fall use for picnicking has also been popular at Hidden Valley. Two current restoration projects (99-02 and 00-07) are well underway at Hidden Valley; these projects are intended to reclaim certain ski slopes and restore them to natural conditions, remove ski lift and lift towers, remove the ski area buildings, and rehabilitate Hidden Valley Creek. Upon completion of the approved and on-going restoration projects, the site of the Hidden Valley Ski Area slopes, lodge, and parking lot would be restored to natural conditions to the degree possible. If the Preferred Alternative is implemented, construction would be completed in conjunction with restoration work so that no newly restored areas would be impacted.

Reasonably Foreseeable Activities. The park anticipates that recreation use and visitation will continue to increase. This could result in increased use of the Hidden Valley area if the Preferred Alternative is implemented. Expansion of shuttle bus service throughout the park, including the Hidden Valley area, is an option the park may consider to manage increased visitation. A recently completed transportation study for Rocky Mountain National Park (Parsons et al 2000) identifies potential park-wide shuttle bus service, which could be modified to include service to the Hidden Valley area.

Impairment of Park Resources and Values

In addition to determining the environmental consequences of the No Action and the Preferred Alternatives, NPS policy requires analysis of potential effects to determine whether actions would impair park resources (NPS 2001c).

The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values. Although Congress has given the NPS the management discretion to allow

certain impacts within parks, that discretion is limited by the statutory requirement that the NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact to any park resource or value may constitute an impairment. An impact would be more likely to constitute an impairment to the extent it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the enabling legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents.

Impairment may result from NPS activities undertaken by concessionaires, contractors, and other operations in the park. An impairment finding is analyzed in the conclusion section for the following impact topics: topography, geology and soils; water resources; vegetation; wetlands; wildlife resources; threatened, endangered, and sensitive species; air quality; natural soundscape; visitor use and experience; visual resources; and local and regional economy.

Comparison of Alternatives

Impacts from the No Action Alternative are discussed first, followed by a description of impacts from the Preferred Alternative.

Natural Resources

Topography, Geology, and Soils

Effects of the No Action Alternative. There would be no new direct impact to topographic, geologic and soil resources with the No Action Alternative. Project number 00-07 (previously approved) will result in removal of formal access to the Hidden Valley area. Historic and contemporary use of the Hidden Valley area is well established, and informal access to the area is likely to occur. If removing formal access to the Hidden Valley area results in continued informal use, minor long-term direct impacts are likely to occur to soil resources. Social trails and random use would result in compaction of soils and erosion along the banks of Hidden Valley Creek.

Effects of the Preferred Alternative. Direct long-term minor effects to topographic and soil resources would occur. Approximately 2.4 acres (Table 4) would be directly affected by construction of the visitor contact station and restrooms, the parking area, the leach field, the picnic sites, the interpretive trail, and earth berms and living snow fences. Construction of these facilities would require excavation and possible placement of fill material. All excavation would occur in previously heavily disturbed areas. Alteration to existing topography would occur from the construction of earth berms to guide users

Table 4. Ground Disturbance Proposed for the Preferred Alternative

Construction Item	Linear Feet of Disturbance	Square Feet of Disturbance
Visitor Contact and Restroom Building	NA	3750 square feet
Parking Lot	NA	72,000 square feet
Interpretive Trail	3,200 feet (400 feet paved, 2,800 feet crushed gravel)	18,000 square feet
Picnic Sites	NA	6,625 square feet
Leach Field *	NA	4,800 square feet
TOTAL		2.4 ACRES

* a holding tank may be used instead of a leach field; 4,800 square feet is the maximum area of disturbance.

to appropriate snow play areas, and to create living snow fences to precipitate snow west of the restroom and contact station building.

A negligible loss of soil material from wind erosion would be likely during construction until disturbed areas could be revegetated. No soil productivity would be lost since the areas impacted have been heavily disturbed by previous uses and are currently generally unproductive.

Moderate long-term direct beneficial impacts to the soil resources would be realized through appropriate use directed by the presence of a formal trail and picnic sites, and by education provided via interpretive signs in the contact station and restroom breezeway and along the interpretive trail.

Cumulative Effects. Previous disturbances to topography, geology, and soils have occurred from logging and sawmill activities; construction, maintenance, and use of the ski area; and subsequent use of the area for winter snow play and summer recreation. Previous activities have cumulatively resulted in major, long-term, and direct impacts to topographic and soils resources. Approved restoration projects (99-02 and 00-07) will have moderate, long-term, direct beneficial impacts on the topographic, geologic, and soil resources of Hidden Valley. Previous impacts, combined with the proposed development of visitor services at Hidden Valley, and foreseeable future projects would have a moderate cumulative effect on topographic and soils resources in the immediate area, but minor impacts in relation to the entire park. There would likely be minor cumulative effects from the No Action Alternative.

Proposed Mitigation. Best management practices would be implemented to minimize soil loss during and after construction. Mitigation measures to protect and preserve soil resources in the project area would be incorporated in the landscaping/revegetation and construction stipulations. General erosion control measures would include minimizing the area of disturbance to defined construction limits, and limiting the time soil is exposed. Upon removal of asphalt and concrete, it would be determined if any topsoil is present. If topsoil is present, excavation would be allowed after the removal of topsoil. Topsoil salvage methods would include windrowing topsoil at the limits of construction and placing the soil back on the finished areas during reclamation. Selective topsoil redistribution to soil deficient areas would be used as needed, but topsoil would not be stockpiled for a long period of time. Soil amendments, mulches, and seeding would be selectively applied to match site conditions and revegetation goals. Long-term soil protection would come from prompt revegetation of disturbed areas following construction and control of invasive exotic plants. Areas disturbed during construction would be restored with topsoil, and planted with native vegetation as appropriate.

Conclusion. The Preferred Alternative would create a moderate impact to topographic and soil resources. Construction disturbance would have a negligible temporary effect on these resources during construction, and contribute to the moderate cumulative effect to these resources. The No Action Alternative would have a minor adverse impact to the topographic and soil resources of the proposed project area.

Because there would be no major, adverse impacts to topography, geology or soils, whose conservation is 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the Master Plan (1976) or other relevant NPS planning documents, there would be no impairment of the park's resources or values.

Water Resources

Effects of the No Action Alternative. There would be no new direct impact to water resources with the No Action Alternative. Project number 00-07 (previously approved) will remove formal access to the area. Historic and contemporary use of the Hidden Valley area is well established, and informal access to the area may occur. If informal use of the Hidden Valley area continues, moderate, long-term, direct impacts are likely to occur to the water resources from recreational use, resulting in denuding of Hidden Valley Creek banks and sedimentation of the creek. This damage would hinder the restoration efforts of projects 99-02 and 00-07.

Effects of the Preferred Alternative. The construction alternative may result in short-term, minor increase in siltation and turbidity in Hidden Valley Creek during and immediately after construction. Excavation and ground disturbing activities would increase the potential for erosion until vegetation is established in disturbed areas. Long-term minor adverse impacts from pollution resulting from parking lot runoff may occur. The runoff would require adequate drainage design. Best management practices (including filtration barriers) would be used to prevent degradation of water quality from construction zone runoff.

Moderate long-term direct beneficial effects would be realized through directed appropriate use of the Hidden Valley area. Social trails and inappropriate use of the stream banks would be reduced, resulting in reduced siltation and turbidity in Hidden Valley Creek. Appropriate use would be directed through formal trails and picnic sites, as well as education provided by interpretive panels in the visitor contact and restroom building and interpretive signs along the trail.

Cumulative Effects. Approximately 500 feet of the Hidden Valley Creek has been confined to a culvert for much of the past 40 years. Additionally, the creek bed was modified in several other places to accommodate ski operations. Restoration efforts initiated under previously approved project numbers 99-02 and 00-07 will restore Hidden Valley creek to as close to a natural state as is possible within the proposed project area. The combined impacts of previous disturbance and restoration, the proposed project, and future projects in this area would result in minor short-term adverse effects, and moderate long-term beneficial effects to water resources in the proposed project area. The No Action Alternative could have minor long-term adverse impacts on water resources in the proposed project area.

Proposed Mitigation. For the construction alternative, best management practices would be used during and after construction to minimize erosion that could result in siltation and turbidity in Hidden Valley Creek, and prevent sediment-laden, and potentially contaminated runoff water from entering Hidden Valley Creek. The park would prepare a detailed landscape/revegetation plan that would provide long-term erosion control and stabilization of disturbed areas. Typical erosion control Best Management Practices that would be used for this project include:

- Filter barriers (silt fences, coir logs, tree trunks)
- Sediment retention structures (temporary and permanent sediment traps, sediment basins, check dams)
- Revegetation of disturbed area
- Monitoring of water quality in Hidden Valley Creek
- Temporary berms and curbs to control runoff from the parking lot surface and graded areas
- Erosion control blankets and mulch
- A stormwater management plan would be prepared for the Colorado Department of Public Health and Environment
- On-going evaluation of the best use of traction sand and deicing products for winter road safety would seek to minimize the introduction of sands and deicing material into aquatic environments

The landscape/revegetation plan would be directly coordinated with on-going restoration efforts at Hidden Valley under project numbers 99-02 and 00-07.

Conclusion. The Preferred Alternative would create no known major impact to water resources. Construction disturbances may have a minor temporary negative effect on water resources during construction, with moderate long-term beneficial effects. The No Action Alternative could result in minor negative effects to the water resources in the proposed project area due to informal use creating siltation and turbidity in the creek.

Because there would be no major, adverse impacts to water resources whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Vegetation

Effects of the No Action Alternative. Under the No Action Alternative, there would be no new disturbance or clearing of vegetation. Under previously approved restoration projects 99-02 and 00-07, the area of the proposed project will be returned to native vegetation. These projects will close the area to formal recreational use. Historic and contemporary use of the Hidden Valley area is well established, and informal access to the area may occur. If informal access to the Hidden Valley area continues, minor long-

term direct impacts are likely to occur to the vegetation resources from recreational use, resulting in denuded and trampled areas used for trails and as picnic sites.

Effects of the Preferred Alternative. This alternative would be implemented in coordination with the ongoing restoration projects (99-02 and 00-07), so that areas planned for disturbance under this alternative would not be subject to vegetation restoration efforts that would be impacted during construction. Any trees, shrubs, or other plants located in areas identified for disturbance would be salvaged, to the degree possible, and replanted following construction to help revegetate the area. Therefore, short-term impacts to vegetation from construction would be negligible. Long-term minor direct impacts would result from loss of 2.4 acres of potential habitat for vegetation to constructed improvements. Vegetation resources would be subject to moderate beneficial long-term effects through directed appropriate use (established trails and picnic sites, education and interpretation). Areas disturbed during construction would be revegetated with native plant species. Management measures to control the spread or introduction of noxious weeds, a common problem on construction sites, would be implemented (RMNP 2000).

Cumulative Effects. Native vegetation in the Hidden Valley area has historically been impacted by logging, the operation of a sawmill, human caused fire, development and operation of a ski resort, and subsequent use of the old ski runs and buildings for recreational use. These uses have introduced exotic vegetation, which is now established on several ski runs. Ongoing restoration projects (99-02 and 00-07) have started to rehabilitate the ski runs, the location of the base lodge (including building removal), Hidden Valley Creek, and the ski resort parking lot. The proposed project area is confined to areas previously disturbed by the ski area. Restoration work so far completed within the proposed project area involves demolition of buildings, and removal of debris. Given the restoration work, the combined impacts of historic disturbances and the proposed project would have an overall minor adverse effect on vegetation resources at Hidden Valley.

Proposed Mitigation. The NPS would follow *Rocky Mountain National Park Best Management Practices for Vegetation Restoration* (Rocky Mountain National Park 2001) and implement a detailed landscaping/revegetation plan to restore native vegetation to areas disturbed during construction. Mitigation to reduce impacts on vegetation resources and ensure revegetation of disturbed areas would include several measures. Principal mitigation components would include:

- Implementation of Best Management Practices to prevent wind and water erosion
- Salvage of topsoil and existing seed sources
- Implementation of landscaping design features, such as slope rounding, to minimize visual impacts and to aid in creating suitable site conditions for revegetation
- Application of topsoil and native seed and plantings according to site-specific conditions and vegetation communities

- Application of soil amendments, mulches, matting, organic matter, and other measures to facilitate revegetation
- Revegetation seeding and planting would use native species from genetic stocks originating in the park; plant species density, abundance, and diversity would be restored as near as possible to predicted conditions present in the late 1800s

Additional measures to prevent the introduction and spread of noxious weeds during construction include:

- implementation of a weed management plan in accordance with the park's Exotic Plant Management Plan (expected to be completed in 2003) to prevent weed infestation and spread
- avoiding use of topsoil currently supporting exotic plants
- cleaning and inspecting construction vehicles prior to entering the park to prevent the import of weeds from tires and mud on the vehicles
- limiting the use of fertilizers that may favor weeds over native species
- using periodic inspections and spot controls to prevent weed establishment; if weeds invade an area, Integrated Pest Management (IPM) techniques will be used to selectively combine management techniques to control the particular weed species

Conclusion. The Preferred Alternative would have a minor impact on vegetation resources. Construction disturbances would have a negligible temporary effect on vegetation from clearing necessary to build the visitor contact and restroom building, picnic sites, leach field, and parking lot; these effects are negligible because of the present condition of most of the area, which is covered by asphalt and concrete. Proposed construction would provide a benefit to vegetation by directing appropriate use of the area via established trails and picnic sites. The proposed project contributes to cumulative effects to vegetation in this area; this cumulative impact is minor on vegetation in the project area. The Preferred Alternative would implement plans to restore native vegetation and prevent the introduction and propagation of invasive exotic plants.

Because there would be no major, adverse impacts to vegetation resources whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (RMNP 1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Wetlands

Effects of the No Action Alternative. Under the No Action Alternative, there would be no new direct or indirect impacts to wetlands resources. Under previously approved restoration project 00-07, wetlands associated with Hidden Valley Creek located within the proposed project area will be restored to as near to natural condition as possible. This project would remove formal access to the area. Historic and contemporary use of the

Hidden Valley area is well established, and informal access to the area may occur. If informal access to the Hidden Valley area continues, minor long-term, direct impacts are likely to occur to the wetland resources from recreational use. Informal recreational use would result in denuded and trampled areas used for trails and to access Hidden Valley Creek.

Effects of the Preferred Alternative. The construction alternative could have moderate short-term direct and indirect impacts to wetlands in the immediate proposed project area, as well as to wetlands in the vicinity of the abandoned beaver colony, approximately $\frac{3}{4}$ mile downstream from the project area. Wetlands that once existed within the proposed project area were heavily disturbed by construction of the ski resort parking lot; construction of the parking lot involved filling in large parts of these wetlands. Restoration project 00-07 will reclaim and restore a large portion of the damaged wetland area; the Preferred Alternative has been designed to avoid impacting wetlands identified for restoration work under project 00-07. Long-term moderate direct and indirect impacts to wetlands resources may occur from runoff entering the wetlands from the proposed parking area. Long-term beneficial effects would be realized through directed appropriate use and education/interpretation if the preferred alternative is implemented.

Cumulative Effects. Wetlands that once existed in the immediate construction area were heavily impacted by the previous construction of the Hidden Valley Ski Area parking lot, lodge, and associated buildings. On-going restoration project 00-07 will restore previously disturbed wetlands in the vicinity of the ski area parking lot and the (removed) ski area buildings. Reasonably foreseeable actions including initiation of shuttle bus service to Hidden Valley would have a negligible impact on wetland resources in the form of possibly contaminated runoff from the parking lot. The incremental impact on wetlands from the proposed project in addition to past and future wetland impacts would be an overall minor impact due to proposed mitigation (see below), and coordination of implementation of the proposed project and the previously approved restoration project 00-07.

Proposed Mitigation. The proposed project has been designed to avoid long-term impacts to wetland areas scheduled for restoration under project 00-07. Restoration of Hidden Valley Creek and associated wetlands in the vicinity of the old ski area parking lot would be implemented in coordination with the proposed project. When restoration and construction are complete, the proposed parking lot and other facilities would not impact wetlands gained and restored through project 00-07.

Additional mitigation measures to avoid and minimize direct and indirect impacts to wetlands would include:

- Placement of silt fence or other barriers adjacent to wetlands and streams to avoid direct impacts from construction equipment
- Use of best management practices for erosion and sediment control measures, to prevent the introduction of sediments into wetlands areas
- A stormwater management plan would be prepared for the Colorado Department of Public Health and Environment

- On-going evaluation of the best use of traction sand and deicing products for winter road safety would seek to minimize the introduction of sands and deicing material into aquatic environments

Conclusion. The Preferred Alternative would create no known major impacts to wetlands. A moderate beneficial impact would occur from directed appropriate use and education/interpretation of the wetlands restored under project 00-07. The No Action Alternative could have a range of results. If closure of the area is successful, there would be no impacts to wetland resources. If the closure is not successful, minor adverse impacts to wetlands could occur from recreational use resulting in trampling of vegetation, and erosion of stream banks, causing turbidity downstream.

Because there would be no major, adverse impacts to wetland resources whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Wildlife Resources

Effects of the No Action Alternative. No new impacts to wildlife resources would occur under this alternative. This evaluation assumes that removal of formal access to the Hidden Valley area under previously approved project number 00-07 will be successful. If this removal of access is not successful at limiting recreational use, minimal, long-term, adverse impacts to terrestrial animals and birds may be expected. Turbidity in Hidden Valley Creek caused by social trails and erosion of creek banks might adversely affect aquatic species.

Effects of the Preferred Alternative. Implementation of this alternative would result in the loss of approximately 2.4 acres of potential wildlife habitat for the proposed development; these acres are currently heavily disturbed by recreational use and old ski area facilities, but would be rehabilitated under the "No Action" Alternative. These impacts would be long-term, minor, direct impacts to the wildlife resources.

Short-term impacts may consist of temporary disturbance of terrestrial, avian, and aquatic species during the construction period. This disturbance would be in the form of noise from construction, and possibly dust from the construction activities. Short-term impacts are expected to be completely reversed upon completion of construction. These impacts would be minor since abundant habitat exists adjacent to the proposed project area.

The proposed development would take place entirely within previously disturbed areas. These areas are part of on-going restoration efforts (project numbers 99-02 and 00-07), which would be closely coordinated with the proposed construction and development.

Historic and contemporary recreational use of Hidden Valley is well established; because the restoration projects have not yet been fully implemented, wildlife populations have probably not changed much over the last ten years. Park management expects the proposed project to facilitate visitor use rather than necessarily increase use, although some increase is expected. Therefore, recreational use levels will likely remain similar to or slightly increase over use figures of the past (Table 1). Wildlife resource use of the Hidden Valley area will probably be negligibly impacted in the long-run by the proposed project.

Cumulative Effects. The proposed project area has been heavily impacted by previous development. Logging and the development and operation of the Hidden Valley Ski Area provided the greatest number, and most extreme impacts, which included clear cutting ski runs, reshaping the slopes, confining Hidden Valley Creek to a culvert for about 500 feet, filling in wetland areas for construction of a parking lot, and construction of lift towers and buildings. On-going restoration work (projects 99-02 and 00-07) is designed to restore areas impacted by the activities listed above. None of the reasonably foreseeable actions would impact wildlife resources. The incremental impact on wildlife from the Preferred Alternative, in addition to past impacts, would result in a minor impact to wildlife resources.

Proposed Mitigation. Mitigation and conservation measures would be incorporated into the Preferred Alternative to minimize potential impacts on wildlife. These measures would be implemented during the final project design if the Preferred Alternative is selected. Mitigation measures applicable to minimizing wildlife habitat impacts are described below:

- vegetation removal and disturbance within the construction zone would be minimized, and all temporarily disturbed areas would be revegetated with native species

Conclusion. Implementation of the Preferred Alternative would create no known major impact to wildlife. A minor long-term effect to wildlife habitat would occur from the loss of about 2.4 acres of potential habitat under the Preferred Alternative. Additionally, a minor short-term impact to wildlife resources may occur during construction of the proposed project. Short-term impacts would be completely reversible. The No Action Alternative would result in minor beneficial effects to wildlife resources. If on-going project 00-07 does not limit recreational use at Hidden Valley, inappropriate use may cause a minimal disturbance to wildlife resources.

Because there would be no major, adverse impacts to wildlife resources whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Threatened, Endangered, and Sensitive (Rare) Species

Effects of the No Action Alternative. There would be minor beneficial effects to threatened, endangered or sensitive species (Appendix B) under the No Action Alternative. No ground disturbing activities would occur, and there would be no loss of threatened, endangered, or sensitive species habitat. If removing formalized recreational access to the Hidden Valley area is not successful under on-going project 00-07, long-term direct and indirect negligible impacts to threatened, endangered, and sensitive species habitat could include trampling of vegetation including moonwort, disruption of bald eagle, peregrine falcon, northern goshawk, and boreal owl activities due to human presence, and possible disruption of greenback cutthroat trout habitat caused by erosion/silting associated with social trails.

Effects of the Preferred Alternative. Short-term direct and indirect impacts may occur during construction. Mitigation measures combined with the short duration of construction activities (approximately 18 months) will make the impacts minor and reversible. Short-term direct impacts would occur due to temporary loss of potential habitat. No greenback cutthroat trout habitat would be lost. The loss would be a negligible temporary loss of habitat for bald eagles, peregrine falcon, northern goshawk, boreal owl and lynx. Moonwort and wolverine habitat would not be lost because no old growth spruce/fir forest would be impacted.

Cumulative Effects. Previous disturbances to threatened, endangered, and sensitive (rare) species habitat have occurred from logging, development and operation of the ski area, and subsequent recreational use of the Hidden Valley area. Reasonably foreseeable actions including shuttle bus service, have the potential to increase the number of people using this area for recreation. The potential increase in users may have a minor additional impact on threatened, endangered, and sensitive species. The incremental impact on greenback cutthroat trout, bald eagle, lynx, moonwort, peregrine falcon, wolverine, northern goshawk, and boreal owl habitat from the Preferred Alternative, in addition to past and future impacts would be a minor cumulative impact. Minor cumulative beneficial effects to threatened, endangered, and sensitive species might occur under the No Action Alternative primarily from the removal of visitor use of the area.

Proposed Mitigation. Habitat for three federally threatened species exists within the proposed project area. Potential effects to greenback cutthroat trout downstream of the construction site will be mitigated by placement of filtration barriers, as appropriate. Bald eagle nests have not been observed in the vicinity of the construction project; effects to eagles using the area will be mitigated by limiting the construction zone to previously disturbed areas. Rocky Mountain National Park is considered lynx habitat. No lynx have been observed in Hidden Valley; potential effects to habitat will be mitigated by limiting construction activities to previously disturbed areas.

Habitat for five sensitive (rare) species exists within the proposed project area. Potential effects to moonwort habitat would be mitigated by avoiding known populations specifically, and spruce/fir forests in general. American peregrine falcons have been

observed in the Hidden Valley area, but no nests have been observed. Effects to peregrine falcons would be mitigated by limiting the construction zone to previously disturbed areas. Although wolverine have not been observed in Hidden Valley, old growth spruce/fir forests are considered habitat. Potential effects to wolverine habitat would be mitigated by avoiding impacts to spruce/fir forests. Northern goshawks have also been observed in the Hidden Valley area; no nest sites have been reported. Potential effects to goshawk habitat would be mitigated by limiting the construction zone to previously disturbed areas. Boreal owl habitat consists of spruce/fir forest, a vegetation type common to the Hidden Valley area. No nest sites are known to exist in the area. Potential effects to boreal owl habitat would be mitigated by limiting the construction zone to previously disturbed areas.

Conclusion. The Preferred Alternative combined with proposed mitigation measures would have no effect on greenback cutthroat trout, bald eagle, lynx, wolverine, peregrine falcon, northern goshawk, boreal owl, or moonwort populations and habitat.

Because there would be no adverse impacts to threatened, endangered, or sensitive species whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Air Quality

Effects of the No Action Alternative. The No Action Alternative would not affect existing air quality.

Effects of the Preferred Alternative. Minor short-term impacts to air quality would occur during construction from construction equipment and related activities. Impacts would be sustained from increased vehicle emissions and airborne dust. Mobile exhaust emissions would increase carbon monoxide, ozone, and particulate matter pollutants. Air stagnation is rare in Hidden Valley. Therefore, an increase in emissions and any fugitive dust plumes would be rapidly dispersed by air drainage. Emissions from vehicle use of the parking lot would result in minor long-term impacts to air quality. These impacts would be minor because of the near-constant movement of air in Hidden Valley. Use of fire grates that would be provided at approximately 15 of the 20 picnic sites may contribute to particulate matter in the air. Impacts from fire grates would be short-term negligible direct impacts.

Cumulative Effects. The foreseeable future action of implementing shuttle bus service to Hidden Valley would have the beneficial effect of decreasing hydrocarbon emissions from individual automobiles. The extent of the decrease in emissions depends on the level of shuttle bus service and other visitor management strategies. The incremental impact on air quality from the Preferred Alternative, in addition to past and future

impacts, would result in minor cumulative impacts to air quality in the Hidden Valley area. The No Action Alternative would have no effect on air quality at Hidden Valley.

Proposed Mitigation. All construction activities would be conducted in compliance with Colorado Department of Public Health and Environment requirements for construction-related fugitive dust. Dust abatement measures, such as watering unpaved and disturbed areas, would be implemented as needed. Disturbed areas would be revegetated as soon as possible after construction to anchor the soil, and reduce dust and particulate matter in the air.

Conclusion. Short-term minor direct air quality impacts would occur during construction under the Preferred Alternative. Long-term minor direct impacts would occur from vehicle emissions and use of fire grates. There would be no effect to air quality under the No Action Alternative.

Because there would be no major, adverse impacts to air quality resources whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Natural Soundscape

Effects of the No Action Alternative. There would be no new impacts to the natural soundscape under the No Action Alternative. Traffic generated noise from Trail Ridge Road would continue under the No Action Alternative. If informal recreational use continues, negligible short-term but repetitive impacts to the natural soundscape in the form of human voices could occur.

Effects of the Preferred Alternative. Short-term moderate direct impacts would occur to the natural soundscape from construction equipment and construction activities. The frequencies, magnitudes, and durations of undesirable human-caused sound during construction activities would vary during the construction period. However, such impacts to the natural soundscape would be temporary and end with the cessation of construction. Some noise related disturbance to wildlife would occur and wildlife could be temporarily disturbed and displaced during construction. Human generated noise from visitors using the Hidden Valley area would result in long-term moderate direct impacts.

Cumulative Effects. Human-caused noise from Trail Ridge Road will continue to have a minor impact to the natural soundscape in the proposed project area. Future implementation of shuttle bus operations servicing Hidden Valley would have a moderate impact on the natural soundscape in the proposed project area. The incremental impact on the natural soundscape from the Preferred Alternative, in addition to past and future impacts, would result in a moderate cumulative impact. The No Action Alternative

would sustain current levels of human-caused noise from the near-by Trail Ridge Road, and possibly minor human voice noise from recreational use.

Proposed Mitigation. Short-term effects of construction to the natural soundscape would be mitigated through limiting the duration of construction activities. Long-term effects would be limited only by the carrying capacity of the developed facilities.

Conclusion. The Preferred Alternative would result in moderate short-term (construction activities) and long-term (human-caused recreational noise) impacts to the natural soundscape. Under the No Action Alternative, there would be minor impacts to the natural soundscape.

Because there would be no major, adverse impacts to the natural soundscape whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Socioeconomic Resources

Visitor Use and Experience

Effects of the No Action Alternative. Under the No Action Alternative, no formal access would be provided to the Hidden Valley Area. This means that Hidden Valley would be closed to sledding. The scenario created under this alternative fails to meet the Council on Environmental Quality (CEQ) goal of providing for visitor safety and enjoyment. This goal is reflected in the Statement of Management for Rocky Mountain National Park (NPS 1992), which states that the park should "provide appropriate visitor services that create an opportunity for a safe and meaningful park experience." The lack of facilities and formal access to the Hidden Valley area would not contribute to this park goal. This alternative would result in a moderate, long-term, adverse impact to visitor use and experience.

Effects of the Preferred Alternative. Under the Preferred Alternative, the recreation experience for most visitors to the Hidden Valley area would improve. Formal access, along with facilities including parking, restrooms, interpretive panels, picnic sites, and an interpretive trail would allow for different types of recreational experiences at Hidden Valley. A multi-purpose room would be available for public use, and a park personnel staging area/office would allow the park to station staff at Hidden Valley as needed. Earth berms and planted vegetation would improve safety in the snow play area. A long-term, direct, moderate beneficial impact to visitor use and experience would be realized under this alternative.

A potential long-term direct negligible adverse impact to visitor use and experience may be felt by visitors and employees seeking a less developed, informal experience at Hidden Valley. This impact is negligible because of the abundance of other undeveloped locations for recreational experiences on the east side of the park.

Cumulative Effects. Hidden Valley has historically been a popular winter and summer recreation site in Rocky Mountain National Park. Restoration projects 99-02 and 00-07 will remove formal access to the Hidden Valley area. The Preferred Alternative's beneficial impact on visitor use and experience, in addition to past and future actions, would have an overall cumulative beneficial effect. Implementation of the No Action Alternative would provide no formal access to the Hidden Valley area, thus causing a cumulative moderate adverse impact to visitor use and experience.

Proposed Mitigation. Visitors and employees seeking an informal, less developed recreational experience could use the proposed facilities as a staging area to access undeveloped areas to the north and southwest of the proposed project area.

Conclusion. Implementation of the Preferred Alternative would result in a moderate beneficial impact to visitor use and experience by providing recreational opportunities and facilities. The preferred alternative would meet the proposed project goal to provide for visitor safety and enjoyment, thus assisting the park in its goal to "provide appropriate visitor services that create an opportunity for a safe and meaningful park experience" (NPS 1992). The No Action Alternative would adversely impact moderate visitor and employee use and experience by failing to provide recreational opportunities and facilities.

Because there would be no major, adverse impacts to visitor and employee use and experience whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park's Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park's resources or values.

Visual Resources

Effects of the No Action Alternative. The existing scenic quality, landscape character, and visibility would receive minor beneficial effects under the No Action Alternative. Buildings would be removed, and eventually the area would return to a spruce/fir forest. If informal visitor use continues, negligible adverse impacts might occur. These impacts would be from social trails, trampled vegetation, areas denuded of vegetation, and erosion along Hidden Valley Creek.

Effects of the Preferred Alternative. Short-term minor indirect impacts to visual resources would occur from dust from construction equipment that may be seen from a few places along Trail Ridge Road. Construction would last about 18 months. Long-

term moderate direct impacts to visual resources would occur due to the presence of the proposed building, parking lot, picnic sites, and interpretive trail.

These impacts would be “moderate” in the context of the current conditions at Hidden Valley. On-going restoration projects 99-02 and 00-07 would restore parts of the old ski area to its natural state, and remove formal access to the area. The old ski area parking lot and two buildings are still present at Hidden Valley. Removal of these facilities, and restoration work would be completed in coordination with the proposed project.

Cumulative Effects. The location of the proposed project lies within an isolated viewshed on the east side of the Continental Divide. Previous development of the Hidden Valley Ski Area has had major long-term adverse impacts on this local viewshed. Restoration initiated under projects 99-02 and 00-07 will eventually correct those adverse impacts. Implementation of the Preferred Alternative, along with restoration efforts, would result in moderate cumulative long-term adverse impacts to the visual resources in the proposed project area. There would be negligible cumulative effects from the No Action Alternative on visual resources.

Proposed Mitigation. The proposed structure has been designed to blend with the surrounding environment. Vegetation may be used to screen the new structure. Any slopes that are created during construction would be contoured to blend with the surrounding topography and vegetation. Trail work would be completed with the least amount of disturbance to native vegetation as possible. Restoration and revegetation of disturbed areas would be the principal methods for mitigating construction-related disturbances to the landscape.

Conclusion. Short-term impacts to visual resources would be minor and indirect, resulting from dust from the construction operations. Long-term impacts would occur to the local viewshed from construction of the visitor contact and restroom building, the parking lot, the picnic sites, and the interpretive trail. Long-term impacts would be limited to the isolated viewshed, and would be visible from Trail Ridge Road only from a few places along the road above the entrance to Hidden Valley. The Preferred Alternative would be implemented within the zone of previous heavy disturbance. Under the No Action Alternative, there would be no impact to the visual resources.

Because there would be no major, adverse impacts to visual resources whose conservation is: 1) necessary to fulfill specific purposes identified in the establishing legislation of Rocky Mountain National Park; 2) key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or 3) identified as a goal in the park’s Master Plan (1976) or other relevant NPS planning documents, there would be no impairment to the park’s resources or values.

Local and Regional Economy

Effects of the No Action Alternative. Under the No Action Alternative, there would be no construction-related disturbance to affect visitor or employee traffic or impact

businesses in the Estes Park area. The local economy would not benefit from short-term construction spending and employment, or from long-term spending by visitors using Hidden Valley recreational facilities.

Effects of the Preferred Alternative. A short-term minor benefit to the local economy would occur from the purchase of construction materials, and possibly from hiring local workers. If a local workforce was employed, income earned would remain primarily in the local economy.

Long-term minor beneficial effects to the local economy would occur from park visitors spending money in Estes Park. Providing the recreational facilities identified in the Preferred Alternative would attract visitors to the park. Since there are no services in the park, visitors generally secure lodging, food and incidentals in Estes Park.

The Preferred Alternative would not change the need for police, fire, medical, or other community resources in the proposed project area or the gateway community.

Cumulative Effects. The development of the Hidden Valley Ski Resort resulted in a beneficial impact to the local and regional economies. Closure of the same resort resulted in an adverse impact to the local and regional economies. Subsequent use of the old ski area for sledding in winter months, and picnicking in summer months has had a minor beneficial impact to the local economy. The Preferred Alternative, in addition to past and future impacts would provide a minor cumulative beneficial effect to local and regional economies. The No Action Alternative would have no impact on the local and regional economies; the No Action Alternative assumes completion of restoration projects 99-02 and 00-07, which would remove formal access to the Hidden Valley area.

Proposed Mitigation. There is no proposed economic mitigation for either of the alternatives.

Conclusion. Construction spending and employment would result in a minor short-term benefit to the local economy. Development of the Hidden Valley area for recreation would have a long-term minor benefit to the local economy by drawing visitors to the park via Estes Park. The No Action Alternative would result in no impact to local and regional economies.

Chapter 5

Consultation and Coordination

An interdisciplinary team of park staff and non-NPS personnel conducted internal scoping of the project to identify the range of potential alternatives and resource issues. This chapter of the environmental assessment includes the names of people and agencies consulted during the preparation of the document, and the preparers of this document.

Persons and Organizations Consulted

Gary Buffington, Larimer County Parks and Open Lands

Ken Czarnowski, Estes Valley Recreation and Park District

David Thomas, Estes Park Chamber Resort Association

Lee Carlson, Colorado Field Supervisor, U.S. Fish and Wildlife Service

Bruce Rosenlund, Fisheries Biologist, U.S. Fish and Wildlife Service

Georgianna Contiguglia, Colorado State Historic Preservation Officer

Rena Brand, Army Corps of Engineers

Timothy T. Carey, Army Corps of Engineers

Chris Jones, Architect, National Park Service, Intermountain Regional Support Office

Keith Payne, Landscape Architect, National Park Service, Intermountain Regional Support Office

Mike Williams, Program Manager, National Park Service, Intermountain Regional Support Office

Joe Arnold, Park Engineer, Rocky Mountain National Park

Bill Butler, Park Archeologist, Rocky Mountain National Park

Jana Chalk, Safety, Occupational Health Specialist, Rocky Mountain National Park

Jeff Connor, Natural Resources Specialist, Rocky Mountain National Park

Karl Cordova, Biologist, Rocky Mountain National Park

Carol Cross, Engineering Technician, Rocky Mountain National Park

Joe Evans, Chief Ranger, Rocky Mountain National Park

Larry Fredrick, Chief of Interpretation, Rocky Mountain National Park

Ben Hawkins, Chief of Maintenance, Rocky Mountain National Park

A. Durand Jones, Former Superintendent, Rocky Mountain National Park

Kyle Patterson, Public Information Officer, Rocky Mountain National Park

Anthony Schetzle, Acting Superintendent, Rocky Mountain National Park

Kim Slininger, Building and Utilities Supervisor, Rocky Mountain National Park

Ron Thomas, GIS Specialist, Rocky Mountain National Park

Gregg Yarrow, Administrative Officer, Rocky Mountain National Park

List of Preparers

National Park Staff

Lisa S. Hanson, Archeologist, Rocky Mountain National Park

Larry Gamble, Chief - Branch of Planning and Compliance, Rocky Mountain National
Park

References

Buchholtz, C. W.

- 1983 *Rocky Mountain National Park: A History*. University Press of Colorado, Niwot, CO.

Butler, William B.

- 1999 Assessment of Effect Form for Hidden Valley Restoration Work, Rocky Mountain National Park, CO. MS on file, Rocky Mountain National Park, Estes Park, Colorado, and Colorado State Historic Preservation Office, Denver, Colorado.
- 2002 Assessment of Effect Form for Proposed Development of Visitor Services at Hidden Valley, Rocky Mountain National Park, CO. MS on file, Rocky Mountain National Park, Estes Park, Colorado, and Colorado State Historic Preservation Office, Denver, Colorado.

Colorado State Historic Preservation Office

- 1992 Letter of determination of eligibility for the Upper and Lower Juniper, and Suicide/FIS ski runs, Rocky Mountain National Park, Colorado. MS on file, Rocky Mountain National Park, Estes Park, Colorado, and Colorado State Historic Preservation Office, Denver.

Mehls, Steven F.

- 1992 Discussion of Eligibility of the Hidden Valley Ski Area, Rocky Mountain National Park. MS on file, Rocky Mountain National Park, Estes Park, Colorado.

National Park Service

- 1992 Statement for Management, Rocky Mountain National Park. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- 1993 Guiding Principles of Sustainable Design. MS on file, System Support Office, Lakewood, Colorado.
- 1999 NPS-77 Natural Resources Management Guidelines. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- 2001a Backcountry Wilderness Management Plan and Environmental Assessment, Rocky Mountain National Park. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- 2001b DO-12, Conservation Planning, Environmental Impact Analysis, and Decision-making. MS on file, Rocky Mountain National Park, Estes Park, Colorado.

- 2001c Management Policies. MS on file, System Support Office, Lakewood, Colorado.
- Natural Resource Conservation Service
- 2000 Soil Survey of Rocky Mountain National Park, Colorado, Parts of Boulder, Grand, and Larimer Counties, CO. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- Parsons, Brickerhoff, Quade and Douglas
- 2000 Rocky Mountain National Park Transportation Study Summary Report. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- Pedersen, Henry F., Jr.
- 1993 *Those Castles of Wood: The Early Lodges of Rocky Mountain National Park and Pioneer Days of Estes Park, Colorado*. Published by Henry F. Pedersen, Jr.
- Petersen, Michael
- 2000 Investigator's Annual Report to the National Park Service. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- Richmond, Gerald M.
- 1974 *Raising the Roof of the Rockies*. Rocky Mountain Nature Association, Inc., publisher.
- Rocky Mountain National Park (RMNP)
- n.d. Rocky Mountain National Park Flora and Fauna Databases. Access available at Rocky Mountain National Park, Estes Park, Colorado.
- 1976 Final Master Plan, Rocky Mountain National Park. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- 1987 Environmental Assessment for the Development of Hidden Valley Ski Area. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- 2000 *Draft*. Exotic Plant Management Plan for Rocky Mountain National Park. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- 2001 Best Management Practices for Vegetation Restoration. MS on file, Rocky Mountain National Park, Estes Park, Colorado.
- Siedel, J., B. Andree, S. Berlinger, K. Buell, G. Byrne, B. Gill, D. Kenvin, and D. Reed
- 1998 *Draft*. Strategy for the Conservation and Reestablishment of Lynx and Wolverine in the Southern Rocky Mountains. Colorado Division of Wildlife.

U.S. Department of the Interior

2001 Fisheries and Aquatic Management, Rocky Mountain National Park. MS on file, Rocky Mountain National Park, Estes Park, Colorado.

Willard, Beatrice Elizabeth, and Susan Quimby Foster

1990 *A Roadside Guide to Rocky Mountain National Park*. Johnson Publishing Company, inc., Boulder, Colorado.

Zeigenfuss, Linda C.

2001 Ecology of Black Bears in Rocky Mountain National Park: An Analysis of Population Dynamics, Diet, and Habitat Selection (1985 – 1991). MS on file, Rocky Mountain National Park, Estes Park, Colorado.

Appendix A

Agency Correspondence

This appendix includes letters of consultation and concurrence regarding the preferred alternative from the following agencies:

Colorado State Historic Preservation Office (cultural resources)

United States Army Corps of Engineers (waterways and wetlands)

United States Fish and Wildlife Service (threatened and endangered species)



COLORADO
HISTORICAL
SOCIETY

The Colorado History Museum 1300 Broadway Denver, Colorado 80203-2137

20 March 2002

Anthony J. Schetzle
Acting Superintendent
Rocky Mountain National Park
Estes Park, CO 80517

RE: Visitor Facilities, Hidden Valley, Rocky Mountain National Park, Larimer County

Dear Mr. Schetzle:

Thank you for your recent correspondence dated 28 January 2002, concerning the proposed construction of a new Visitor Facilities area on the grounds of the former Hidden Valley Ski Resort (5LR.2127.) We apologize for the delay in our response. Our office has reviewed the submitted materials.

The only significant features at the Hidden Valley Ski Resort are the surviving ski runs from the resort's early days. These were determined to be eligible for the National Register as historic landscape features. The rest of the resort was developed in the 1950s, 60s, and 70s, and does not meet the National Register criteria.

The proposed Visitor Facilities would impact the Ski Lodge and other ancillary structures below the runs. The proposed project will only affect these non-historic structures and landscape features. The significant ski runs will not be affected. Therefore, the proposed project shall have no adverse effect on the significant portions of Hidden Valley.

If you have any questions, please feel free to contact Joseph Saldibar, Architectural Services Coordinator, at (303) 866-3741. We look forward to hearing from you.

Sincerely,

for *Mark Wolfe*
Georgianna Contiguglia
State Historic Preservation Officer, and
President, Colorado Historical Society

OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION

303-866-3392 * Fax 303-866-2711 * E-mail: oahp@chs.state.co.us * Internet: www.coloradohistory-oahp.org



DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-6901

July 8, 2002

Mr. Anthony J. Schetzle
Acting Superintendent
National Park Service
Rocky Mountain National Park
Estes Park, Colorado 80517

**RE: Hidden Valley Ski Area Wetland Restoration and Additions/Modifications
Corps File No. 200280051**

Dear Mr. Schetzle:

Reference is made to the above-mentioned project located near Section 14, Township 5 North, Range 74 West, Larimer County, Colorado, and your letter dated June 20, 2002 advising this office of additions to the project including the construction of a 2,571 square foot building with public restrooms, a parking lot, and interpretive trail with associated picnic sites. It was mentioned in the letter that these modifications will not result in the placement of fill material into wetlands or waterways at the site. The interpretive trail, consisting of four crossings to Hidden Valley Creek, will span the creek and will not require placement of fill material into the creek or wetlands.

In that regard, this project has been reviewed in accordance with Section 404 of the Clean Water Act under which the U.S. Army Corps of Engineers regulates the discharge of dredged and fill material and certain excavation activities in waters of the United States. Waters of the U.S. includes ephemeral, intermittent and perennial streams, their surface connected wetlands and adjacent wetlands and certain lakes, ponds, drainage ditches and irrigation ditches that have a nexus to interstate commerce. Based on the information provided, a Department of the Army permit will not be required for this activity.

Although a Department of the Army permit will not be required for this activity, this does not eliminate the requirements that other applicable federal, state, tribal, and local permits are obtained if needed.

If there are any questions concerning this matter, please call Ms. Rena Brand of this office at 303-979-4120 and reference Corps File No. 200280051.

Sincerely,

Timothy T. Carey
Chief, Denver Regulatory Office

rb



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Colorado Field Office
755 Parfet Street, Suite 361
Lakewood, Colorado 80215

IN REPLY REFER TO:
ES/CO: T&E
Mail Stop 6-5412 Lkwd.

MAR 13 2002


Larry Gamble
National Park Service
Rocky Mountain National Park
Estes Park, Colorado 80517

Dear Mr. Gamble:

In reference to your letter dated February, 2002 concerning a Threatened and Endangered Species List for Larimer County and the State of Colorado, please find enclosed a copy of the **Federally-Listed and Candidate Species and Their Status in Colorado**, effective as of August 21, 2001, to be used by the National Park Service for reference with the Hidden Valley Improvement Project at Rocky Mountain National Park.

Additional copies of this list for future reference can be found on the internet at www.fws.gov. If the Fish & Wildlife Service can be of any further assistance, please contact Ari Cornman of my staff at 303-275-2370.

Sincerely,


LeRoy W. Carlson
Colorado Field Supervisor

cc: Anthony Schetzle, National Park Service *add*
Enclosure: Federally-Listed and Candidate Species List

**U. S. Fish and Wildlife Service
Ecological Services
Colorado Field Office**

(Effective August 21, 2001)

FEDERALLY LISTED AND CANDIDATE SPECIES & THEIR STATUS IN COLORADO

Page 5/8	COUNTIES -															
U. S. Fish and Wildlife Service Ecological Services Colorado Field Office (Effective August 21, 2001)																
FEDERALLY LISTED AND CANDIDATE SPECIES & THEIR STATUS IN COLORADO																
	L A K E	L A P L A T A	L A R I M E R	L A S A N I M A S	L I N C O L N	L O G A N	M E S S A	M I N E R A L	M O N T E R A T	M O N T E Z U M A	M O N T R O S E	M O R G A N	O T E R O	O U R A Y	P A R K	P H I L I P S
Bald eagle, <i>Haliaeetus leucoccephalus</i> , Listed Threatened	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Eskimo curlew, <i>Numenius borealis</i> , Listed Endangered		✓	✓	✓		✓						✓				
Gunnison sage-grouse, <i>Centrocercus minimus</i> , Candidate for Listing		✓					✓			✓					✓	
Least tern (interior population), <i>Sterna antillarum</i> , Listed Endangered				✓								✓				
Lesser prairie chicken, <i>Tympanuchus pallidicinctus</i> , Candidate for Listing					✓											
Mexican spotted owl, <i>Strix occidentalis lucida</i> , Listed Threatened		✓	✓	✓					✓	✓	✓				✓	
Mountain plover, <i>Charadrius montanus</i> , Proposed Threatened <i>not in Colorado</i>			✓	✓	✓	✓			✓				✓	✓	✓	
Piping plover, <i>Charadrius melodus</i> , Listed Threatened				✓									✓			
Southwestern willow flycatcher, <i>Empidonax traillii eximius</i> , Listed Endangered		✓					✓			✓	✓			✓		
Yellow-billed cuckoo, <i>Coccyzus americanus</i> , Candidate for Listing		✓					✓	✓	✓	✓	✓				✓	
Whooping crane, <i>Grus americana</i> , Listed Endangered			✓	✓	✓	✓	✓		✓	✓	✓					
Black-footed ferret, <i>Mustela nigripes</i> , Listed Endangered		✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
Black-tailed prairie dog, <i>Cynomys ludovicianus</i> , Candidate for Listing			✓	✓	✓	✓							✓			✓
Canada lynx, <i>Lynx canadensis</i> , Listed Threatened	✓	✓	✓	✓			✓	✓	✓	✓	✓			✓	✓	
Prebble's meadow jumping mouse, <i>Zapus hudsonius preblei</i> , Listed Threatened			✓									✓				
Arkansas darter, <i>Etheostoma caeruleum</i> , Candidate for Listing				✓	✓								✓			
Bonytail, <i>Gila elegans</i> , (presumed-historical) Listed Endangered											*			*		
Colorado pikeminnow, <i>Ptychocheilus lucius</i> , Listed Endangered	✓	*												*		
Greenback cutthroat trout, <i>Oncorhynchus clarki stonias</i> , Listed Threatened	✓	✓	✓													✓

**U. S. Fish and Wildlife Service
Ecological Services
Colorado Field Office**

(Effective August 21, 2001)

FEDERALLY LISTED AND CANDIDATE SPECIES & THEIR STATUS IN COLORADO

[illegible]

Appendix B
Threatened, Endangered, and Rare Species
Reported in Rocky Mountain National Park
Last Revised February 2002

Rocky Mountain National Park uses the following sources to identify endangered, threatened and rare species that must be protected if found within the proposed project site.

Agencies have a variety of ways of tracking and measuring the biological imperilment of species. The U.S. Fish and Wildlife Service (USFWS) determines if a given species needs protection under the Endangered Species Act. There are three primary categories to federal listing:

Federal Status Codes

- LE Federal Endangered** – Listed as endangered by the U.S. Fish and Wildlife Service. The species is in danger of extinction throughout all or a significant portion of its range. Endangered species have legal protection under federal law.
- LT Federal Threatened** – Listed as threatened by the U.S. Fish and Wildlife Service. The species is likely to become endangered within the foreseeable future. Threatened species have legal protection under federal law.
- C Federal Candidate** – The U.S. Fish and Wildlife Service is considering federal listing.

The Colorado Division of Wildlife also maintains a list of imperiled species for the state of Colorado. There are three primary categories to state listing:

State Status Codes

- E State Endangered** – Listed as endangered by the Colorado Division of Wildlife. The species is in danger of extirpation throughout all or a significant portion of its range within the state of Colorado. State endangered species have legal protection under Colorado Revised Statutes 33-2-105 Article 2.
- T State Threatened** – Listed as threatened by the Colorado Division of Wildlife. The species is likely to become endangered within the state of Colorado within the foreseeable future. State threatened species have legal protection under Colorado Revised Statutes 33-2-105 Article 2.
- SC State Special Concern** – Listed as species of concern by the Colorado Division of Wildlife.

The Colorado Natural Heritage Program (CNHP), based in Fort Collins manages a large database and ranking system for Colorado species. Their ranking system has two primary components – a ranking for the global status of the species (G), and a ranking for that part

of the range found within the state (S). Numeric extensions are added to these on a scale of 1 (extremely rare) to 5 (common).

Natural Heritage ranks should not be interpreted as legal designations. Although most species protected under state or federal endangered species laws are extremely rare, not all rare species receive legal protection.

Global Rank Codes

- G1** Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extinction.
- G2** Imperiled globally because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extinction throughout its range.
- G3** Vulnerable throughout its range or found locally in a restricted range (21 to 100 occurrences).
- G4** Apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery.
- G5** Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- ?** Uncertainty about an assigned global rank.
- T#** Trinomial rank used for subspecies or varieties. These species are ranked on the same criteria as G1-G5.

State Rank Codes

- S1** Critically imperiled in state because of extreme rarity (5 or fewer occurrences, or very few remaining individuals), or because of some factor of its biology making it especially vulnerable to extirpation from the state.
- S2** Imperiled in state because of rarity (6 to 20 occurrences), or because of other factors demonstrably making it very vulnerable to extirpation from the state.
- S3** Vulnerable in the state (21 to 100 occurrences).
- S#B** Refers to the breeding season imperilment of species that are not permanent residents.
- S#N** Refers to the non-breeding season imperilment of species that are not permanent residents.
- SX** Presumed extirpated from the state.
- ?** Indicates uncertainty about an assigned state rank.

The Rocky Mountain National Park list of Endangered, Threatened, and Rare Species does not include State Ranks Codes S4 and S5 because these rankings indicate that the species is secure throughout its range.

Scientific Name	Common Name	Status		CNHP Rank	
		Federal	State	Global	State
Amphibians					
<u>Bufo Boreas Popl</u>	Boreal Toad	C	E	T1	S1
<i>Rana Pipiens</i>	Northern Leopard Frog		SC	G5	S3
<i>Rana Sylvatica</i>	Wood Frog			G5	S3
Birds					
<u>Accipiter Gentilis</u>	Northern Goshawk			G5	S3B
<i>Aegolius Funereus</i>	Boreal Owl			G5	S2
<i>Amphispiza Belli</i>	Sage Sparrow			G5	S3B
<i>Ardea Herodias</i>	Great Blue Heron			G5	S3B
<i>Bucephala Albeola</i>	Bufflehead			G5	S1B
<i>Bucephala Islandica</i>	Barrow's Goldeneye		SC	G5	S2B
<i>Circus Cyaneus</i>	Northern Harrier			G5	S3B
<u>Coccyzus Americanus</u>	Yellow-billed Cuckoo	C	SC	G5T3	
<u>Cypseloides Niger</u>	Black Swift			G4	S3B
<i>Dendroica Pensylvanica</i>	Chestnut-Sided Warbler			G5	S2B
<i>Falco Peregrinus Anatum</i>	American Peregrine Falcon		SC	T4	S2B
<i>Grus Canadensis Tabida</i>	Greater Sandhill Crane		T	T4	S2B, S4N
<i>Haliaeetus Leucocephalus</i>	Bald Eagle	LT	T	G4	S1B, S3N
<i>Melanerpes Erythrocephalus</i>	Red-Headed Woodpecker			G5	S3B
<i>Pandion Haliaetus</i>	Osprey			G5	S3B
<i>Setophaga Ruticilla</i>	American Redstart			G5	S1B
<i>Vireo Olivaceus</i>	Red-Eyed Vireo			G5	S3B
Fish					
<i>Catostomus Platyrhynchus</i>	Mountain Sucker		SC	G5	S2?
<i>Oncorhynchus Clarki Pleuriticus</i>	Colorado River Cutthroat		SC	T3	S3
<i>Oncorhynchus Clarki Stomias</i>	Greenback Cutthroat	LT	T	T2T3	S2S3
Mammals					
<u>Canis Lupis</u>	Gray Wolf			G4	SX
<i>Felis Lynx Canadensis</i>	Lynx	LT	E	G5	S1
<i>Gulo Gulo</i>	Wolverine	C	E	G4	S1
<u>Lutra Canadensis*</u>	Northern River Otter*		E	G5	S3S4
<i>Sorex Hoyimontanus</i>	Pygmy Shrew			T2T3	S2
<i>Sorex Nanus</i>	Dwarf Shrew			G4	S2S3
<i>Ursus Arctos</i>	Grizzly or Brown Bear			G4	SX
Invertebrates (Insects)					
<u>Colorado Luski</u>	A Buckmoth			G?	S1?
<i>Erebia Theano Ethela</i>	Edward's Alpine			G4	S3

Scientific Name	Common Name	Status		CNHP Rank	
		Federal	State	Global	State
<i>Hyles Galli</i>	Galium Sphinx Moth			G?	S3?
<i>Oarisma Edwardsii</i>	Edwards's Skipperling			G4	S3
<i>Oeneis Polixenes</i>	Polixenes Arctic			G5	S3
<i>Pachysphinx Modesta</i>	Modest Sphinx Moth			G?	S3?
<i>Paratrytone Snowi</i>	Snow's Skipper			G4	S3
<i>Pyrgus Ruralis</i>	Two-Banded Skipper			G4	S3
<i>Pyrgus Xanthus</i>	Xanthus Skipper			G3G4	S3
<i>Speyeria Cybele Cybele</i>	Great Spangled Fritillary			T5	S1
<i>Speyeria Hydaspe</i>	Hydaspe Fritillary			G5	S2
<i>Speyeria Nokomis Nokomis</i>	Great Basin Silverspot Butterfly			T2	S1
Mollusk					
<i>Acroloxus Coloradensis</i>	Rocky Mountain Capshell		SC	G?	S2
Plants					
<i>Aletes Humilis</i>	Larimer Aletes			G2G3	S2S3
<i>Aquilegia Saximontana</i>	Rocky Mountain Columbine			G3	S3
<i>Botrychium Echo</i>	Reflected Moonwort			G2	S2
<i>Botrychium Lanceolatum</i> <i>var Lanceolatum</i>	Lance-Leaved Moonwort			T4	S2
<i>Botrychium Lunaria</i>	Moonwort			G5	S2
<i>Botrychium Minganense</i>	Mingan Moonwort			G4	S1
<i>Botrychium Pallidum</i>	Pale Moonwort			G2	S2
<i>Carex Leptalea</i>	Bristle-Stalk Sedge			G5	S1
<i>Cypripedium Fasciculatum</i>	Purple's Lady's-Slipper			G4	S3
<i>Cystopteris Montana</i>	Mountain Bladder Fern			G5	S1
<i>Draba Grayana</i>	Gray's Peak Whitlow-Grass			G2	S2
<i>Drymaria Effusa</i> var. <i>Depressa</i>	Pinewoods Drymary			T4	S1
<i>Dryopteris Expansa</i>	Spreading Wood Fern			G5	S1
<i>Isoetes Setacea</i> subsp. <i>Muricata</i>	Spiny-Spored Quillwort			G5T5?	S2
<i>Juncus Tweedyi</i>	Tweedy Rush			G3	S1
<i>Juncus Vaseyi</i>	Vasey Rush			G5?	S1
<i>Liatris Ligulistylis</i>	Gay-Feather			G5?	S1S2
<i>Lilium Philadelphicum</i>	Wood Lily			G5	S3
<i>Listera Borealis</i>	Northern Twayblade			G4	S2
<i>Listera Convallarioides</i>	Broad-Leaved Twayblade			G5	S2
<i>Mimulus Gemmiparus</i>	Weber Monkey Flower			G2	S2
<i>Papaver Kluanense</i>	Alpine Poppy			T5	S2

Scientific Name	Common Name	Status		CNHP Rank	
		Federal	State	Global	State
<i>Occidentale</i>					
<i>Parnassia Kotzebuei</i>	Kotzebue Grass-of-Parnassus			G4	S2
<i>Penstemon cyathophorus</i>	Middle Park Penstemon			G3G4	S3
<i>Potentilla Effusa</i> Var. <i>Rupicola</i>	Rocky Mountain Cinquefoil			T2	S2
<i>Salix Serissima</i>	Autumn Willow			G4	S1
<i>Sisyrinchium Pallidum</i>	Pale Blue-Eyed Grass			G3	S2
<i>Viola Selkirkii</i>	Selkirk Violet			G5?	S1